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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

89, No. 9 SEPTEMBER, 1936 Member A.B.C.—A.B.P.

With Hunters and Campers Entering the Dry Woods, Now Is the Time To Be On Guard for Forest Fires That May Spread to Nearby Properties

Fire Departments Are Already Buying This New LOW-COST FOAM TOOL

You've wanted inexpensive foam equipment for flammable liquid fires. Now you are getting it—the new efficient Phomaire Play Pipe.

FIRE departments like this new foam tool because it goes into action so quickly. They simply couple this specially designed foam-making water nozzle to their hose line (¾" to 2½"), fill the Hip Pack with ready-mixed PHOMAIDE Solution, drop the pick-up tube into the solution and shout for water pressure.

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Types ADR-12 and ADR-14 portable floodlights; type DCE-16 searchlights, and type LCE-1120, 1500-watt floodlights are recommended.

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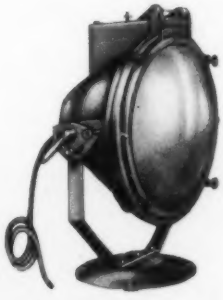

Type LCE-1120

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A Consolidation of FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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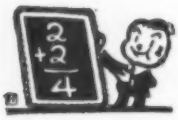

FIGURES DON'T LIE

FIGURES hold a great fascination for us. We like to add and subtract, multiply and divide—and use the results in hopeful speculation.

● There has recently come to our attention a whole new lot of statistics on the fire fighting facilities of the country's 20 largest cities, plus a lot of other figures on costs, losses, etc. They are really very interesting and apparently quite meaningful, because these 20 cities represent more than one-third of our total urban population.

● According to these figures, 27,871 firemen, with equipment valued at about $50 millions, protect the lives and property of more than 23 million people in our 20 largest cities.

● Further analysis of the figures reveals that the total cost of maintaining the fire departments in these 20 cities was about $73 millions—and that the total assessed valuation of their taxable property was the staggering sum of $40 billions.

● Thus, the cost of fire protection figures out about 18¢ a hundred dollars — a pretty mild charge for the services rendered.

● When we pause to reflect that these figures do not take into account the many billions worth of property (such as the contents of buildings, etc.), which are not included in the $40 billions "assessed valuation of taxable property;" and the 23 million lives, upon which no valuation, however fantastic, can be placed, it seems beyond human understanding why those who govern us should hesitate about fire department budgets.

The Publishers

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Humorous Side of the Fire-Fighting Profession

MEMBERS
Audit Bureau of Circulations
Associated Business Papers

Published the tenth of each month by
CASE-SHEPPERD-MANN PUBLISHING CORPORATION
Also publishers of "Water Works Engineering" and "Municipal Sanitation"
General Offices—24 West 40th Street, New York

SUBSCRIPTION PRICE
U. S. and Canada, $2 a year; Foreign, $3; Single Copies, 25c.

KARL M. MANN, President
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CHICAGO: 6 N. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 444 Market St.—CHARLES H. WOOLLEY

Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
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HUMAN LIVES LOST 100,000

INDIRECT FIRE WASTE . . . . . ? ? ? ?

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The most frequent cause of *Delayed Alarms* is:

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THE GAMEWELL COMPANY
NEWTON UPPER FALLS MASSACHUSETTS

Why Gamble With Public Safety When Such Protection is Available?

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 89 SEPTEMBER, 1936 No. 9

With the Editor

The Closed Truck Scores Again! The tragic accident at Detroit, wherein two fire trucks collided, killing one member of the Fire Department and injuring two others, again emphasizes the value of the closed body pumper. Those riding therein escaped serious injury. Only the men on the open truck were numbered among the casualties.

The value of human life cannot be expressed truly in dollars, but it is commonly said by actuarials that the average human life represents a monetary value of $15,000. If this is the case, the closed pumper has paid for itself several times over, for it is quite certain that the number killed would have been greater had both trucks been of the open type.

Detroit Fire Department officials may well be gratified at the results of this practical demonstration of the greater safety of the closed machines, which they had the courage to adopt.

* * *

Another Hazard Worth Watching A western Fire Department was recently called to a building where it was found that gasoline was seeping into a basement through a concrete block wall. Enough had entered by the time the Fire Department arrived to half cover the basement floor.

The mystery of its appearance was only solved when a careful survey was made of the neighborhood. It was found that gasoline from a leaky underground tank over one hundred feet away was traveling through the ground and accumulating alongside the basement wall.

Metal structures, including tanks and piping, when placed underground, are subject to damage from corrosion and electrolysis. Unless well protected by corrosion-resistant and insulating paints, damage is quite certain to result. After a period of years, what was originally a gas-tight tank may begin to leak.

With the increasing number of underground gasoline tanks being installed, and the aging of those already in service, a real fire and explosion hazard is being developed. Fire Departments might well bear this in mind.

Gasoline may travel underground for great distances, particularly when the ground water level is high, and thus endanger large areas.

As to precautionary measures to be taken to head off trouble, a periodic air or liquid pressure test of all installed tanks is essential. If a tank cannot retain air pressure, within reasonable limits, careful further inspection, and repair where necessary, would be in order.

* * *

More Politics? In a discussion among a group of New Jersey Fire Chiefs recently as to changes in Fire Department administration, attention was called to the deplorable state of affairs at Clifton, N. J. Under City Manager form of government, a very able Fire Chief, John Zanet, was reduced to the rank of Assistant Chief, the office of Fire

Chief was abolished, and a police officer was made Director of Public Safety and put in charge of Police and Fire Departments.

Under what was said to amount to practically a threat of summary dismissal, Chief Zanet was forced to "sign away his rights," apparently to forestall any court action on his part.

Such high-handed action smacks of Nazi dictatorship; it has no place in our enlightened type of government. The citizens of Clifton will be the biggest losers by the outrageous action. Discipline in the department, and therefore its efficiency, suffers. The town loses the benefits of the commanding ability and superior judgment of an experienced and capable Fire Chief.

What makes the entire affair appear like politics of the rankest type is the revised scale of salaries put into effect. Chief Zanet's salary was reduced to an amount less than the basic salary of lieutenant in the department.

Such action as this cannot help but discredit the City Manager form of government, to say nothing of the effect on Fire Department morale and fire losses.

* * *

Headed for a Tragedy A fire in a small motion picture theatre at Keansburg, N. J., last month narrowly missed developing into a tragedy. About 200 children were in the building at the time, and were it not for cool-headed action taken by a few adults who first noticed the smoke entering the auditorium, a heavy loss of life might have resulted.

Despite laws in most cities prohibiting children entering motion picture houses unaccompanied by parent or guardian, there is hardly a motion picture house in suburban districts that is not crowded on Saturday afternoons with children of all ages, who are not accompanied by adults as prescribed by law.

Theatre proprietors, in the great majority of instances, are concerned chiefly with the making of money. They'll take every chance that city officials will permit. For, after all, they feel that anything the municipality allows is safe enough for them, and, furthermore, the blame will not be on the proprietors if anything happens.

Panic, not fire, is the foremost hazard when large groups of children are present in a theatre. Only a cry of "fire" is needed; then terror reigns.

There is no reasoning with children when panic has gripped them; for self-preservation still remains the first great law of nature, and human instincts have not changed through the centuries.

Where children are permitted in theatres in large numbers, there is no guarantee against another "Iroquois Theatre Disaster," where panic was chiefly responsible for the loss of lives of 566 persons, mostly children and women.

Aren't cities today, by relaxing the laws against children in large numbers, without guardians, attending motion picture shows, setting the stage for another great tragedy?

Must there be another disaster before restrictions which have proven effective during the past quarter century are again enforced in theatres? Have the lessons of the Brooklyn and Iroquois Theatre holocausts become out of date?

Just as surely as city officials continue to yield to the pressure of theatre owners for relief from regulations, so surely are we headed for another terrible tragedy. And at the present rate of retreat, we won't have long to wait.

In these contests between box office receipts and the protection of human life, there can be only one choice.

It's about time that the fire service showed its hand and demanded a tightening up of safety measures designed to protect the lives of children of tender age who attend theatres.

Fred Sheppard

In a Fire in This Group of Fine Frame Dwelling Houses, Thirteen Buildings Were Destroyed Before the Blaze Was Brought Under Control

Fighting Fires in Dwellings

First Rescue All Occupants, If In Danger, and Then Extinguish Fire with Least Damage—Each Blaze Separate Problem

By CHIEF ALBERT C. MELENDY
Fire Department, Nashua, N. H.

I AM going to use my own city of Nashua as an example, because there are a great many things that confront a Chief when he gets a call for a fire, and I want to give a little insight into the situation of my own city.

In the first place we cover thirty-four square miles and the distance from the City Hall to the north is two and one-half miles, to the northwest is five miles, to the west is four miles, to the south is seven miles and it is one mile to the Merrimack River on the east, which is the boundary on this side. Our water mains extend in a radius of one and one-half miles, so that we have quite a large area, that, until the last year, had no water protection whatsoever. From Decem-1, 1934, I have had from fifteen men to start with until at present I have forty-five men making water reservoirs. These are in the outlying districts to protect property that had no water protection before. At the present time we have constructed forty-five stations where we can draft water for our pumping engines. I call these stations, as some of them

Chief Albert C. Melendy

are connected with ponds, some are on streams and some are fed with springs. They contain from 25,000 gallons to 300,000 gallons. With these stations and the amount of hose we carry on the apparatus, we can cover every building in the city of Nashua and nineteen in the town of Hollis; also a large number over the State line in Massachusetts. When we receive a call from an outlying district, we send one 1,000-gallon pumper and two booster hose wagons and a ladder truck, and if the call comes from a place that we know is more than 2,000 feet away from a station we send two pumping engines.

Causes of Fires in Frame Dwellings

There are quite a number of causes of fires in wood and frame buildings. It might be interesting to review a list of the causes of fires in such dwellings in Nashua during 1935:

151 Soot in Chimney.
12 Defective Chimney.
20 Flooded Oil burners.
11 Sparks from Chimneys.
11 Smoking.
11 Undetermined.
8 Children and matches.
8 Cigarettes in rubbish.
8 Back drafts.
7 Defective wiring.
6 Fire crackers.
4 Rubbish in Cellar.
3 Overheated Electric motors.
3 Oily dust mops.

Shingle Roofs and Frame Structures Provide Fuel for Quick Spreading Fires

3 Hot Ashes.
2 Overheated smoke pipes.
2 Overheated stoves.
2 Pipes in clothes pockets.
2 Meat on Gas stoves.
1 Mop on furnace to dry.
1 Spark from furnace door.
1 Thawing out pipes.
1 Dust around heater.
1 Cigarette dropped on awning.
1 Overheated gas oven.
1 Burning moth nests.
1 Lightning.
1 Oily metal shavings.
1 Spontaneous combustion.
1 Cleaning Ice Chest with torch.
1 Electric Iron.
1 Smoke pipe not connected with chimney.
1 Incendiary.

289 Total.

Ashes in Wooden Receptacle Cause Fire

The largest number of calls comes from soot in the chimney which gets afire and overheats the chimney, hot ashes placed in wooden receptacles, poor covering on electric wires and poor installation. The hot ashes are always a great factor. Only recently we had a call to a dwelling where the man when he got up and fixed the fire, put the ashes in a wooden receptacle and placed them on the piazza against the side of the house. His wife was to have taken care of them when she had time. As she did not get up very early, the ashes set fire to the box and the flames caught on the side of the house and burnt through the side and into the partition. When the milkman came to deliver the milk, he discovered the fire. He woke up the occupants in the house, called the department and then got some water and put on the fire. When we arrived the fire was in the partition and up to the second floor, but it did not take long to extinguish it. This was a very close call for the occupants.

Fire From Thawing of Acetylene Tank

We received a call from one of our neighboring towns for aid. This fire was caused by putting an acetylene gas tank on the kitchen stove to thaw out. It exploded and set the dwelling afire and if the wife of the man had not gone into another room to answer the telephone, she might have been killed by the explosion. This was a large set of farm buildings all connected together. The fire caused the destruction of all the connecting buildings, but we helped to save part of the dwelling. This incident demonstrates that one cannot be too careful on the problem of fire prevention. Certainly this man did not use the necessary precautions in thawing out his gas tank.

Each Fire a Different Problem

There are no two fires alike. When you arrive on the scene of a fire, especially if it is in the night, the first thing is to be sure that all persons are out of the dwelling, then get at the seat of the fire. If it is in the partitions, we use plaster hooks to rip them out, and any other walls, if there is a possible chance of the fire to have gotten into them. While some of the members are doing this, others are ventilating the building and if there are no windows in the attic, we cut a hole in the roof near the ridge pole, which I think is a good place to let out all gases and smoke. The men can thus work more efficiently and have a better chance to locate the seat of the fire. At the same time the fire, by having a vent, will show itself more readily.

Difficulty of an Obscure Fire

Sometimes we are called to locate a fire where there is only a faint odor of smoke. This is quite a job and takes considerable time. I recall one instance when we were called to a fire of this nature. When we arrived at the dwelling we were told that there was a faint odor of smoke, such as burning wood in the bath room, and in going to the bath room you could smell the odor of burning wood very distinctly. We searched the house from cellar to attic and could not find the cause of the fire.

I sent the apparatus back to the station, with the exception of the chemical (this happened some time ago when we had no boosters), and we continued to look for the cause. I make it a point never to leave a fire or a call to one until I have discovered the cause which necessitated the call.

After working one hour and a half I happened to look up at the ceiling in the dining room and saw that one of the tops over one of the gas jets was off (the people were using gas for lighting at this time). I asked the man of the house how long this had been off and he said about two weeks. We immediately went to the room over the gas jet and after removing the furniture and carpet, we took up the flooring over the spot and we found that directly over the gas jet was a beam. The heat from the jet, which was about two feet from the ceiling had charred the beam and that was what had given us all the trouble.

Response to a Fire in a Dwelling

This is only one of the problems that we are up against. The best remedy I know for the extinguishment of fires in dwellings is water, but put the water on the fire and not the smoke. To a fire in a dwelling the following pieces of apparatus respond: one 1,000 gallon pumping engine, with 1,300 feet of 2½-inch hose; two booster hose wagons, with 1,300 feet 2½-inch and 200 feet of 1-inch hose on each one, and one city service ladder truck. The pump connects up to the hydrant or water reservoir and, if necessary, as in some outlying districts, lays out its 1,300 feet of 2½-inch hose. The first hose wagon goes directly to the fire and uses its booster line, while the second one lays a 2½-inch line from the pump to the fire, and more lines if they are necessary. If the fire is such

With Little Water Available, There Is Small Hope of Saving This Frame Dwelling

that it can be handled with booster lines a "Y" is placed on the feed line and connected to the two boosters, so that either hydrant or pump pressure can be run through the booster tanks.

If the fire is in the outlying districts, where there is only enough hose to run one line from the pump to the fire, a "Y" is placed near the fire, and two streams are run from the one feeder line, instead of one. However, be sure that small tips are used on the nozzle tips.

Arrangement of Duties at a Fire

So much for the placing of the apparatus and the laying of the lines also the connections. The membership of the department is such that no one man has any particular job to do, as he must be an all around fireman and ready for any task that he may be called upon to do at any time. On arriving at a fire, the first couple of men go through the building, making sure that there is no one in the building or liable to be caught there. The next ones find the seat of the fire and direct the men that have brought in the booster line. One man goes above the fire, to determine if it has worked its way up through anywhere; others ventilate the building and carry on salvage work at the same time. As soon as the fire is under control, the apparatus is released, if possible, so that the men can go back to their respective stations and be ready for another call. This is done with caution, so that there will not be any danger to the property in case there be a rekindle which flares unexpectedly.

If the fire is in the outlying district, where the pump must be connected up with stiff suctions, it is very important that more men be sent with the pump than at an ordinary hydrant fire. One of the main points is to educate the public to call the department *at once* if they detect the least bit of smoke in the house and cannot find the cause of it, and to call first, then if they can, to hold the fire down as much as possible until the apparatus arrives. Many a serious fire has happened when a party thought that they could handle the fire themselves and, after it got out of their control, have called the department when the blaze had a wonderful start.

In conclusion, for a dwelling fire, get there as quickly as possible with out endangering anyone, as the first few minutes are what count on any fire; make sure that nobody is in the building, put the least amount of water possible on the fire, but enough so that no spark is left to rekindle, and return home with the feeling that you have done your duty to the best of your knowledge and nobody can say a word against you.

The "sidewalk committee" are the best fire fighters in their own minds, but what would they do in our places, where one has to use quick and sound judgment, such as is needed in the time of fire? They would probably do what a lot of others have done—that is to carry the pillows and mattresses down the stairs and throw the glassware, and other breakable material, out of the windows!

(Excerpts from a paper read before the Fire Fighting Conference at Worcester, Mass.)

Chief Smith in Insurance Field

Richard Lee Smith, formerly Chief of the Pittsburgh, Pa., Fire Department, is now an associate in the Fire Insurance Department of Logue Brothers & Co., 221 Fourth Avenue, Pittsburgh.

Fire Prevention Week, October 4-10

During the past year, there have been a number of outstanding fire losses which show the importance of the proper observance of Fire Prevention Week, which this year comes October 4 to 10.

In Los Angeles County, Cal., 25,000 acres of brushland home sites were burned over with a property loss of $1,000,000. More than 85,000 barrels of whiskey and a total loss of $4,000,000 was caused when a whiskey warehouse was destroyed in Peoria, Ill. Lack of knowledge of a soya bean process was the cause of an explosion and fire in a paint factory in Chicago, Ill., which claimed the lives of eleven men and injured forty-five others. The property loss was $1,000,000.

A number of Chiefs have demonstrated that by consistent, hard plugging and the development of an intelligent campaign of public action, it is possible to bring down the per capita fire loss of the community.

To assist Chiefs in the planning of fire prevention talks and publicity, the latest issue of *Safeguarding America Against Fire*, published by the National Board of Fire Underwriters, has been made the annual fire prevention number.

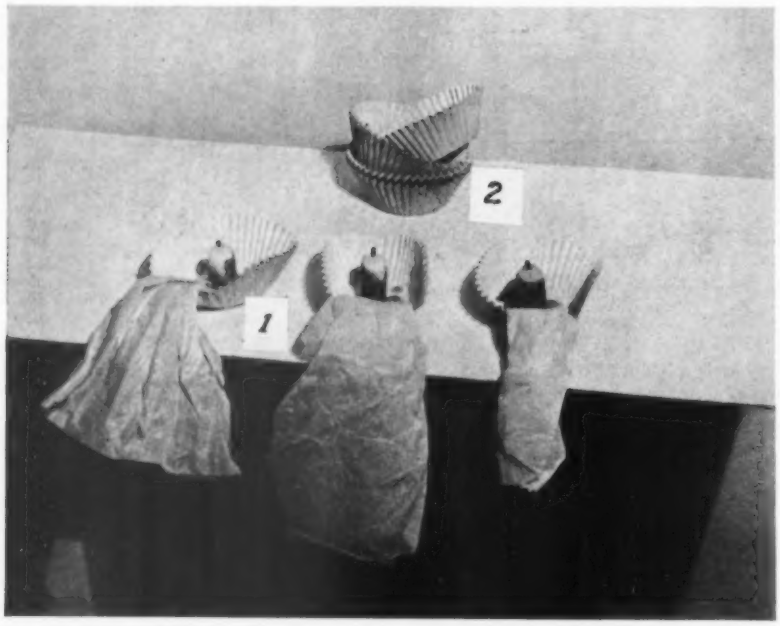
Although much has been done in the field of fire prevention work since the famous Chicago conflagration, a great deal remains to educate the public in the value and need for fire prevention cooperation.

Fire Prevention Week Exhibit Arranged at Elkhart, Ind.
An interesting Fire Prevention Week display was designed and arranged by the Fire Department of Elkhart, Ind., last year and exhibited in a prominent show window. It had equipment showing how fire alarms are sent and received, and various types of fire extinguishers.

The Crime of Arson

Seventh Article of a Series Which Will Cover Outstanding Cases of Incendiarism and How They Were Handled

By GEORGE O. MANSFIELD
Chief of Fire Investigation, Massachusetts State Police



A New Use for Cake Cups

1.—Set up of candles, cake cups, and tissue paper trailers found in tenement where fire occurred. 2.—Cup cake paper shells of the same type found in owner's pantry on lower floor.

TOO many electric flatirons, and the receding tide on a nearby beach, disclosed a clever attempt to have an incendiary fire appear as having been accidently set by an overheated flatiron. The owner of a summer camp purchased a cheap electric flatiron for the purpose of allowing it to overheat to set fire to the camp, but this particular iron, although left turned on for several hours, failed to get hot enough to set the fire.

When the owner returned and found that his scheme had not worked, he threw the iron into the water in front of the cottage. He then purchased another electric flatiron and again tried his scheme. The same thing happened, and, again, he tossed the second iron into the water. However, a third flatiron did overheat and caused the fire.

When the investigator was called to check up on the fire, the tide had gone out and disclosed the two new flatirons in the sand. These were traced and found to have been sold to the owner, who, when confronted with the facts, confessed.

Trapped by Hole

In another case involving a bit and a hole, that of a fire which occurred in a small store is interesting. The owner, not having the nerve to start the fire inside of his place of business, made a hole in the wall, cutting this hole by boring a circle with a bit. He then extended a trailer through the hole to a pile of rubbish in a common hallway, to which other tenants had access. A lighted candle was then placed in the rubbish with the hope that it would ignite the rubbish and burn along the trailer through the hole into his store.

A police officer on the beat, trying doors, discovered the candle burning in the hallway and called the Fire Department.

The setup was then discovered and an examination of the hole in the wall showed that it had been made from the inside of the store, as the point of the bit where it had "lapped" over was noticeable at several points, so that once again clever detection of bit marks ruined a storekeeper's plans.

Too Many Candles

The discovery of lighted candles that have not burned down or candles that have gone out have furnished valuable evidence in many cases. It has been shown that the ordinary candle will burn about an inch an hour, but the rate of burning depends upon the atmospheric conditions within the room where it is set. Where more than one candle has been placed, one will probably burn more rapidly than the other, due to the fact that there is more oxygen near it, and the one that first starts a fire may be entirely consumed, although the others might be found.

Take the case of a meat market fire. A candle placed in the rear room did its work, but two placed in a refrigerator failed to burn down and were discovered by the firemen, after they had extinguished the fire in the rear room. This was due to the fact that there was a lack of oxygen in the refrigerator.

Caught With the Evidence

In another candle case, a police officer patrolling his beat observed a flicker inside a tailor shop and thinking a fire was just starting, summoned the Fire Department. When the firemen arrived, entrance was gained through an open transom and then the discovery was made that there was a lighted candle burning in a waste basket, surrounded by inflammable material. Trailers extended throughout the shop which had been well prepared for a fire.

When the fire investigator arrived, in answer to a call from the Fire Department, he resorted to a little strategy to trap the owner, as the building was securely locked. The owner was called on the telephone and notified that there was something wrong in his store and would he please come down in order to attend to the matter. He arrived after some delay and was met by a uniformed police officer who stood out-

side the building. Entrance having been previously gained through the transom, there was nothing to indicate that anyone had been in the shop. However, the investigator and another officer had secreted themselves inside, behind a counter, where they could observe the burning candle in the waste basket.

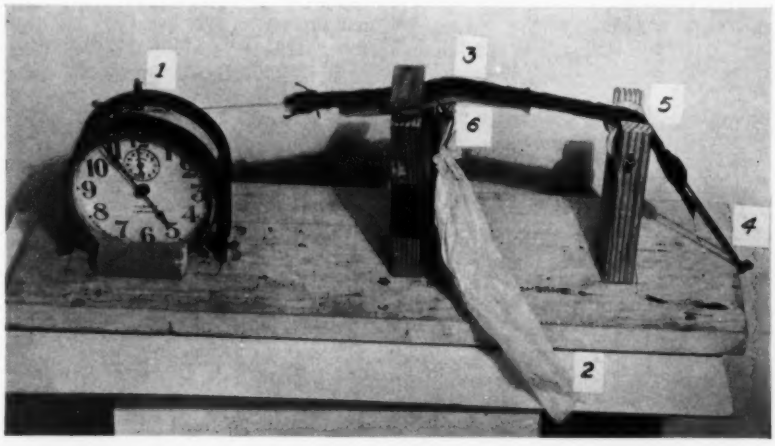
The uniformed officer on the outside casually remarked to the owner: "Well, I'll leave and turn the place over to you."

Whereupon, the owner unlocked the door, as the officer departed, and went directly to the waste basket where he took the candle and extinguished it, placing it in his pocket. He then began to gather up the trailers. The hidden officers emerged and made their arrest.

Substitution of Cars

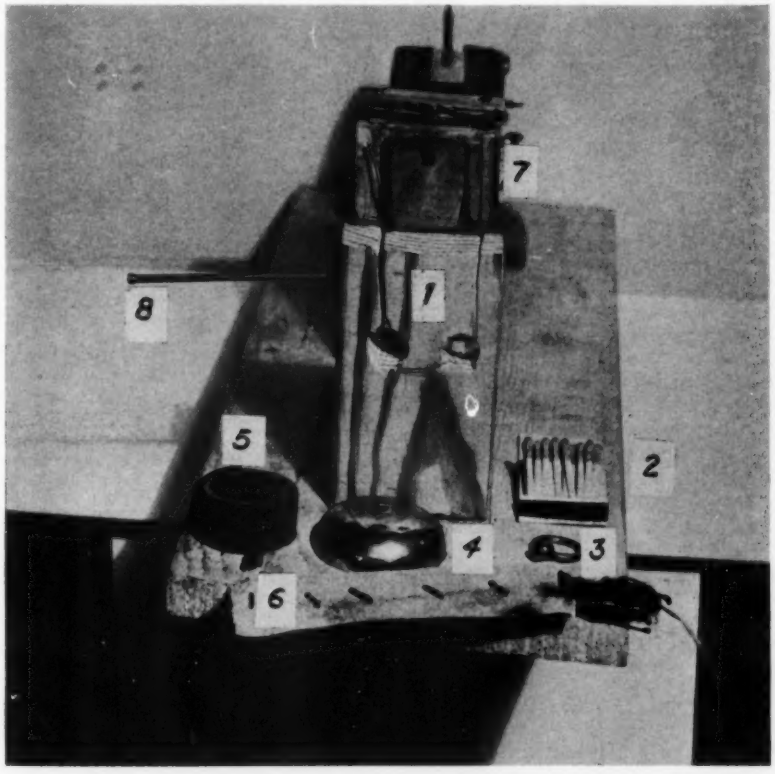
Burning of automobiles to collect insurance has not proved profitable, due to the fact that insurance companies will pay only the second-hand value of the car which, in most cases, is below the actual value to the owner. However, to circumvent this status, a ring of crooks devised a scheme to realize a profit on such burnings. They would go to an automobile junk yard and purchase a wrecked car of a late type and tow it away to a hideout under the pretense of wanting to get some of the parts. Then they would steal a car of the same make and take it to the hideout.

A short time later, they would change the motor and serial numbers, erasing the numbers on the stolen car and substituting the numbers of the wrecked car. Later, this stolen car would be registered under the new numbers and insured against loss or damage by fire. This car would then be burned and the amount collected on insurance would be a fancy profit.



The Set-up All Ready for Action

1.—Alarm clock held on board with tape, and a string attached to the bell striker. 2.—Trailer of tissue paper attached to 6, a paper of matches. 3.—Weather stripping with sandpaper sewn onto it to scratch matches. 4.—Elastic bands furnishing tension on weather strip which passes over thread spool, 5. 6.—Matches held in mouse trap.



Showing How the Wood Was Matched to Convict Suspect

1.—Piece of wood which had been cut out of upright found in owner's tenement replaced into this upright, showing the perfect match of wood. 2.—Paper of matches which was held in mouse trap, 7. 3.—Fastener which held bell 4 onto pin on top of alarm clock. 5.—Remains of tape found in tenement of owner. 6.—Sandpaper sewn onto weather stripping. 8.—Nail which held thread spool.

This scheme, however, was discovered when a careful investigator, checking the motor number, found the changes. Thus, this racket was short-lived.

Importance of Odors

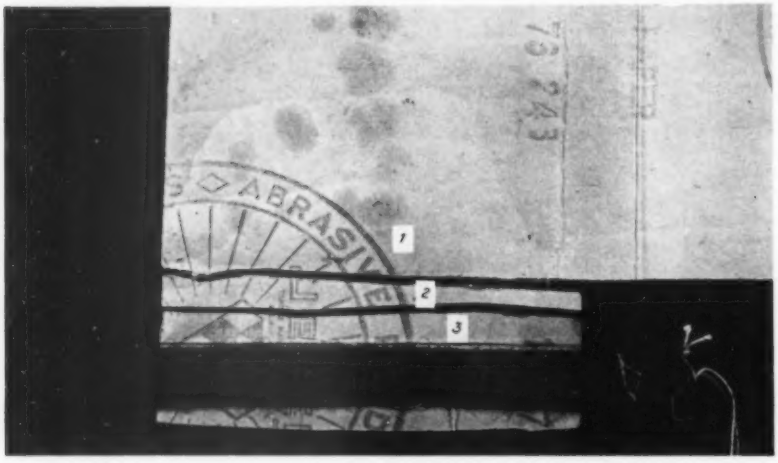
Previously in this article, attention was called to the fact that where inflammable materials are used and the odors are detected, it is important to remember what these odors are, because there may be a sudden flash or explosion, which would destroy all of the evidence. In a particular case, where rubber cement was spread about the tile floor and marble counters of an ice cream parlor, the firemen, upon entering, detected the odor, but the admission of air soon made an explosive mixture and there was a flareback which forced the firemen to retreat. The fire spread rapidly and burned all the evidence.

However, a determined investigator was not to be baffled and, upon learning that the firemen had entered some distance into the building, thought possibly that rubber cement on the floor would have stuck to the firemen's rubber boots. An examination of the boots of several firemen disclosed that this was the fact. From the soles of the boots, sufficient

rubber cement was secured to furnish evidence. As a matter of fact, a pair of boots were retained as evidence and produced in court, showing the film of rubber cement upon the soles.

Another Candle Set-up

A man who conceived the idea of setting a fire by means of candles thought that if he placed the candles in paper cup cake shells, which he secured from his wife's pantry, his crime would not be discovered because he believed that the cup cake holders would be destroyed in the fire. His well-laid plans went wrong, however, because one candle burned faster than the others, starting the fire which resulted in an alarm being sounded. Upon the arrival of the firemen, three unburned candles were found perched in the paper holders, with trailers of tissue paper attached. The owner was connected with the candles by the discovery of several similar cup cake shells in the pantry of his home.



A Jig Saw Puzzle That Convicted the Maker

1.—Large piece of sandpaper found in the owner's tenement with the trademark showing. 2.—Small strip of sandpaper cut from 3 to allow 3 to pass more freely between holder over the matches. 3.—Sandpaper sewn onto the weather stripping. Parts 1, 2, and 3 are arranged in the position to complete the trademark.

An Alarm Clock Trap

A cleverly arranged fire trap, consisting of an alarm clock which, when the alarm sounded, was to scratch some matches, failed to function because too great a tension had been placed on the scratching arrangement by an elastic band, the spring of the alarm striker being insufficient to relieve this tension.

The alarm clock was fastened on a piece of board by means of tape which the firemaker expected would burn in the fire and thus no fastening would be found. A paper of matches was held under the scratching arrangement by a small mouse trap which was attached to a piece of wood by means of a tape. The tape was extended over a thread spool which had been arranged on a nail in another "upright" to allow the scratcher freedom of motion. All parts of this contrivance would have burned in the fire except the alarm clock, but this all failed because the bell striker on the alarm clock did not move the scratcher back and forth.

This setup was found in an upper tenement of a three-story building, the owner being the occupant of a lower floor. In his tenement were found pieces of wood from which the parts of the trap had been constructed. The "upright," which contained the thread spool, had been cut out to allow admission of the spool on a nail. The piece which had been cut out was found and matched very nicely into the "upright." The alarm clock bell and fastener were also found, as well as the remains of the tape. A piece of sandpaper, from which had been cut the strip which was sewn onto the piece of weather stripping, was also found in this tenement and it was proved that the strip, which was to scratch the matches, had been cut from the original piece by matching up the label, this strip having been cut in the middle of this label.

Chief Clay Heads Utah Firemen

Chief Jack W. Clay, Murray, Utah, was elected President of the Utah State Firemen's Association at the annual convention held at Ogden. The other officers are William J. Berry, Park City, First Vice-President; C. W. Rapp, Logan, Second Vice-President; John J. Creedon, Bingham, Secretary; Charles A. Canning, Midvale, Treasurer. The 1937 convention will be held in Midvale.

Life memberships were awarded to James Devine, former Chief, Salt Lake City; Thomas Dee, first aid expert, Salt Lake City Police Department, and Paul Hammer, Jr., Salt Lake City, who aided in compiling the year book.

New Hampshire Chiefs Hold Ladies' Day

The New Hampshire Fire Chiefs Association observed their annual Ladies' Day with an outing at Hampton Beach, N. H., Wednesday, August 12. A splendid program, during the day, was concluded with a dinner at the Ashworth Hotel. In addition to the ladies, members of the Chiefs' Clubs of Massachusetts, Vermont, and Maine were also guests of the New Hampshire Chiefs. In all 166 Chiefs, with their ladies, attended the dinner.

The principal after-dinner speakers were Commissioner of Insurance Francis J. DeCelles, of Massachusetts and State Fire Marshal, Stephen C. Garrity, of Massachusetts.

Commissioner DeCelles paid high tribute to the fire service and claimed that the wonderful work of the Fire Departments in keeping down the fire losses throughout New England had earned every community the right to a reduction in insurance rates. He stated that there should be a more rapid reduction in rates, as there are 1,300,000 risks and only an average of 95,000 reductions being made annually, which would require thirteen years for a proper reduction. He stated that over a period of twenty-five years insurance companies have never paid greater than 51 cents on the dollar on insurance losses, and that now insurance companies are paying not more than 35 cents on the dollar. He hoped that there would be a general reduction in rates throughout New England.

State Fire Marshal Stephen C. Garrity stressed the needed cooperation between the Chiefs of New Hampshire, Vermont, and Connecticut in a movement to standardize rules and regulations governing fireworks, so that the hazards of bootleg fireworks would be lessened. He pointed out that he is revising the Massachusetts regulations and hopes that the adjoining states will follow his example.

Chief Ralph S. Goodrich, Epping, N. H., President of the hosts organization, presided and, in addition to these speakers introduced the following: D. W. J. Huff, Chief Explosive Engineer, United States Bureau of Mines; Chemist George W. Jones of the same bureau; Chief Charles L. McCarthy, Worcester, Mass., President of the Massachusetts Chiefs' Club; Commissioner George W. Good, Brookline, Mass.; Chief Charles French, Manchester, N. H.; Chief Homer B. Whiting, Hampton Beach, N. H.; David Flanders, New Hampshire Board of Fire Underwriters, and George C. Mansfield, Chief of Fire Investigation, Massachusetts Department of Public Safety.

The Committee of Arrangements consisted of Chief Albert C. Melendy, Nashua, N. H., and Chief William T. Happny, Concord.

Everybody Was in Cheerful Mood at the Toronto Convention of the I.A.F.C.

Left to right, Fred Hirsch of Los Angeles, with Chief Louis Kerner of Rio Vista, Cal., and Lester Stevenson, Sales Manager, Seagrave Corp.; Geo. Morley of Gamewell Co., with Mrs. Flynn of Chicago; Jay W. Stevens of San Francisco, with Mrs. Johnson of Knoxville, Tenn. (left), Mrs. Shaw of Toronto, and Mrs. Gregory of New Rochelle, N. Y.; Mrs. and Chief E. V. Welch of Columbus, O., with Bob Anderson of Buckeye Fame, Dayton, O. (balancing a rubber mustache and a new set of air-conditioned teeth).

I.A.F.C. Continues Its Advance

Conclusion of Report on Toronto Conference — Oklahoma City Chosen for Next Year's Convention — Officers Elected

This is the conclusion of the report covering the Sixty-fourth Annual Conference of the International Association of Fire Chiefs, which took place at Toronto, Ont., on July 28 to 31. The first part of the report appeared in the August issue.

Chief Peter B. Steinkellner, Milwaukee, Wis., called attention to the practice of the national government in erecting buildings locally which do not conform to state and local fire prevention laws; also to federal occupancy of buildings which develops hazards not permissible under local fire ordinances.

Specific cases were cited where buildings, upon being altered to accommodate federal occupancy, utilized flammable construction, which would not be permitted in the case of private buildings under local fire ordinances.

Chief Steinkellner submitted a resolution directing the Association to petition Congress to have laws so altered as to require the government, when building, or occupying buildings in municipalities, to conform to whatever laws and ordinances relate thereto locally. The resolution was carried unanimously.

Selection of Convention City

Four invitations were sent to the Association for next year's Convention, San Diego, Cal.; Los Angeles, Cal., and Oklahoma City, Okla., being represented at the Convention by their respective Chiefs.

Upon the first vote, Oklahoma City, apparently led by a large margin so that the selection was subsequently made unanimous. The date of the Convention will be decided by the Directors early next year.

Following the selection of the Convention city, an invitation for the 1939 Convention was submitted by New York, through J. J. McElligott, Fire Chief and Commissioner, and by San Francisco, through Chief Charles J. Brennan.

Election of Officers

Chief Robert A. Bogan, of Baton Rouge, La., was unanimously elected President for the term 1936-37.

Chief Daniel B. Tierney, Arlington, Mass., was advanced to first Vice-President.

There was no contest for second Vice-President, Chief Roy B. Mottesheard, being chosen for this office by unanimous vote.

Secretary-Treasurer James J. Mulcahey, ex-Chief of Yonkers, N. Y., was unanimously re-elected Secretary-Treasurer, and Chief Jay W. Stevens, was re-appointed Executive Secretary.

A Badge for the Retiring President

The last action taken by the newly elected President, Chief Bogan, before the adjournment of the meeting, was the presentation of diamond-studded badge, a gift of the Association, to the retiring President, Chief Charles J. Brennan. This badge bears the following inscription: "Charles J. Brennan, President, International Association of Fire Chiefs, 1935-36."

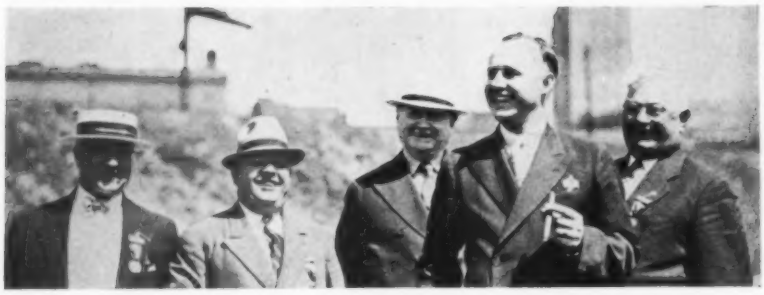
Exhibits at the Toronto Convention

The exhibits at Toronto netted the Association nearly twice the revenue of the exhibits at Knoxville. Those concerns staging exhibits at the Hotel Royal York, were as follows:

Akron Brass Manufacturing Co., Wooster, Ohio.
American Steam Pump Co., Battle Creek, Mich.
American LaFrance & Foamite Corp., Elmira, N. Y., and Toronto, Ont.

Some Outstanding Figures at the Toronto Convention

Left to right—Dr. Henry M. Archer, Commissioner John J. McElligott and Wm. Conran, New York City; Chief John Evans, New Orleans, La.; Paul Kearney, well-known writer, with Geo. W. Booth, and Clarence Goldsmith, of National Board of Fire Underwriters.



Some of the Cheerful Faces at the I.A.F.C. Convention in Toronto

Left to right—Chief J. A. Petterson, Larchmont, N. Y.; Chief John Gibson, Mt. Vernon, N. Y.; Chief Wm. J. Noble, New Britain, Conn.; Chief Chas. Friedel, Jr., Union City, N. J.; Chief Ernest Beckert, West New York, N. J.

American Fire Hose Co., Philadelphia, Pa.
American District Telegraph Co., New York, N. Y.
Atlas Fire Equipment Co., New York, N. Y.
Buckeye Iron & Brass Works, Dayton, Ohio.
Cory-Patterson Manufacturing Co., Greenfield, Ohio.
Dayton Fire Equipment Co., Dayton, Ohio.
Eureka Fire Hose Division of the United States Rubber Products Co., Inc., New York, N. Y.
Elkhart Brass Manufacturing Co., Elkhart, Ind.
Federal Electric Co., Chicago, Ill.
Gamewell Company, Newton Upper Falls, Mass.
Gorham Fire Equipment Co., Boston, Mass.
Homelite Corp., Port Chester, N. Y.
Kellam Manufacturing Co., Atlanta, Ga.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morning Pride Manufacturing Co., Dayton, Ohio.
Mars Light Co., Oak Park, Ill.
Midwestern Manufacturing Co., Mackinaw, Ill.
Portable Light Co., Inc., New York, N. Y.
Pyrene Manufacturing Co., Newark, N. J.
D. B. Smith & Co., Utica, N. Y.
United Pyro Chemical Corp., Lynn, Mass.
Voleske Tool Co., Portland, Ore.

* * *

Convention Notes

A well balanced program of entertainment was provided by the local committee at Toronto. The moonlight trip on Lake Ontario was especially well conducted, and in line with the promise of a moonlight night, a clear sky and a bright moon were provided. The banquet reminded one of old times when the big banquet hall of the Hotel Royal York was filled to overflowing.

The unannounced talk by Rev. Walter C. Rundin, Chaplain of the Nebraska State Volunteer Firemen's Association, on Wednesday forenoon was a most inspiring one. Rev. Rundin has the knack of putting over a message in a straightforward and vigorous manner.

* * *

The three motion pictures entitled "Sixty Seconds to Safety," "It is Up to You," and "What Price Fourth of July?" drew plenty of applause and commendation after their showing both on Wednesday evening and at the banquet on Thursday evening. These films will be made available to Fire Departments for the education of the public. Their sponsor pays the cost of filming and producing them. It is planned to issue eight additional films if sponsors for them can be secured.

* * *

President Brennan made an excellent presiding officer, and the program was carried out according to schedule the whole way through. No topics were carried over from one session to the next. His Presidential address at the beginning of the convention, as well as his closing remarks after the election of the new President, were appropriate and inspiring.

* * *

The California delegation served as host to a large number of Chiefs and their friends at a noon-luncheon on Tuesday. About three hundred assembled at the roof garden of the Hotel Royal York to partake of a very enjoyable meal and to listen to several short addresses. The high spot of the affair was the presentation to Chief Jay W. Stevens, by the Pacific Coast delegation, of a beautifully engraved testimonial scroll, extolling Chief Stevens' fine work for the Pacific Coast Fire Chiefs. The testimonial bore the signatures of the entire California delegation.

Chiefs Who Attended the Annual Convention of the I. A. F. C. at Toronto, Ont.

(Chief unless otherwise specified)

ALABAMA

Hargrove, B. O., Birmingham.

CALIFORNIA

Boehme, Lou, Jr., Bay Shore City.
Brazie, J. B., Calexico.
Brennan, Chas. J., San Francisco.
Canfield, Lloyd B., Beverly Hills.
Coop, E. F., Pasadena.
Cooper, W. P., Richmond
Copley, C. C., San Marino
Cuff, Thos. F., Menlo Park
Demanty, D. A., Lindsay
Dunphy, M. J., Sacramento.
French, L. M., Paso Robles
Gordon, J. H., Ontario.
Hagerty, J. C., Watsonville
Haggerty, George, Berkeley.
Lutkey, W. B., Oakland.
Hazeman, Geo. W., Woodland
Johnson, H. H., Ventura.
Johnson, Henry A., Ex-Chief, Los Angeles.
Kerner, Louis P., Jr., Rio Vista.
King, Warren L., Santa Paula.
Leidig, Robert G., Carmel.
Lane, Thomas M., Alameda.
Miller, O. B., Williams.
Miller, John D., Davis.
Morris, Hugh F., San Mateo.
Mosbaugh, Edward, Riverside.
Reams, Lee Thomas, El Centro.
Parrish, John E., San Diego.
Plummer, Charles, San Jose.
Smith, Charles E., Ex-Chief, San Francisco.
Scott, R. J., Los Angeles.
Steinhauer, E., Redding.
Stevens, Jay W., Fire Marshal, San Francisco.
Stewart, H. L., Brawley.
Thompson, R. E., Stockton.
Trowbridge, Perrim G., Redlands.
Van Meter, W. E., Bakersfield.
Van Sant, V. D., Dixon.
Wallace, George E., Modesto.
Ward, Thomas S., Red Bluff.
Welte, A. J., South San Francisco.
Williams, W. R., Fresno.
Wyatt, J. A., Arcata.

CONNECTICUT

Bogardus, George M., Norwalk.
Lawton, M. W., Middletown.
Lynch, Thomas J., Waterbury.
Moran, John C., Hartford.
Moroney, John F., Meriden.
Noble, W. F., New Britain.
Palmer, John A., Torrington.
Pachl, John S., Annex Fire Dept., New Haven.
Shipman, Thomas H., New London.
Taft, Henry R., Norwich.

FLORIDA

Dowling, W. Q., Jacksonville.
Edwards, Steve, Quincy.
Stephenson, J. S., Miami Beach.
Chase, H. R., Miami.

GEORGIA

Brosnan, D. W., Albany.

ILLINOIS

Corrigan, M. J., Chicago.
Davis, Frank M., Danville.
Ely, John, Champaign.
Foucek, Chas. J., Naperville.
Gramley, Lloyd E., Aurora.
Herring, Albert, Murphysboro.
Hoskin, E. C., Highland Park.
Houren, G. M., Winnetka.
Hrack, James, Berwyn.
Knol, George, Cicero.
Luedeke, A. L., Freeport.
Nygren, John O., Joliet.
Platt, William, Decatur.
Simon, George, Quincy.
Whalen, R. E., Elgin.
Zibble, Walter H., Wilmette.

INDIANA

Bauman, Irvin C., Michigan City.
Clem, C. F., Anderson.
Clune, Thomas P., Gary.
Freeh, William, South Bend.
Homann, A. E., La Porte.
Kennedy, Fred C., Indianapolis.
McCabe, Archie, State Fire Marshal Office, Muncie.
Stahlhut, John C., Fort Wayne.

IOWA

Callahan, H. J., Fort Dodge.
Kohout, E. P., Cedar Rapids.
Morris, L. R., Ames.
Shire, Daniel H., Mason City.
Tiller, Ray, Waterloo.

KANSAS

Lind, Olander, Kansas City.
West, Glen, Hutchinson.

KENTUCKY

Henry C. J., Lexington.
Miles, Ed., Newport.
McHugh, Edward A., Louisville.

LOUISIANA

Bernard, Rene, Thibodaux.
Bogan, R. A., Baton Rouge.
Evans, John M., New Orleans.
Flores, S. J., Shreveport.
Gross, L. R., Lafayette.
Hanson, A. A., Westmego.
McEachern, J. G., Haynesville.
Miles, J. W., Crowley.
Perres, Felix, Rayne.

MAINE

Randlette, J. W., Richmond.
Sanborn, Oliver T., Portland.

MARYLAND

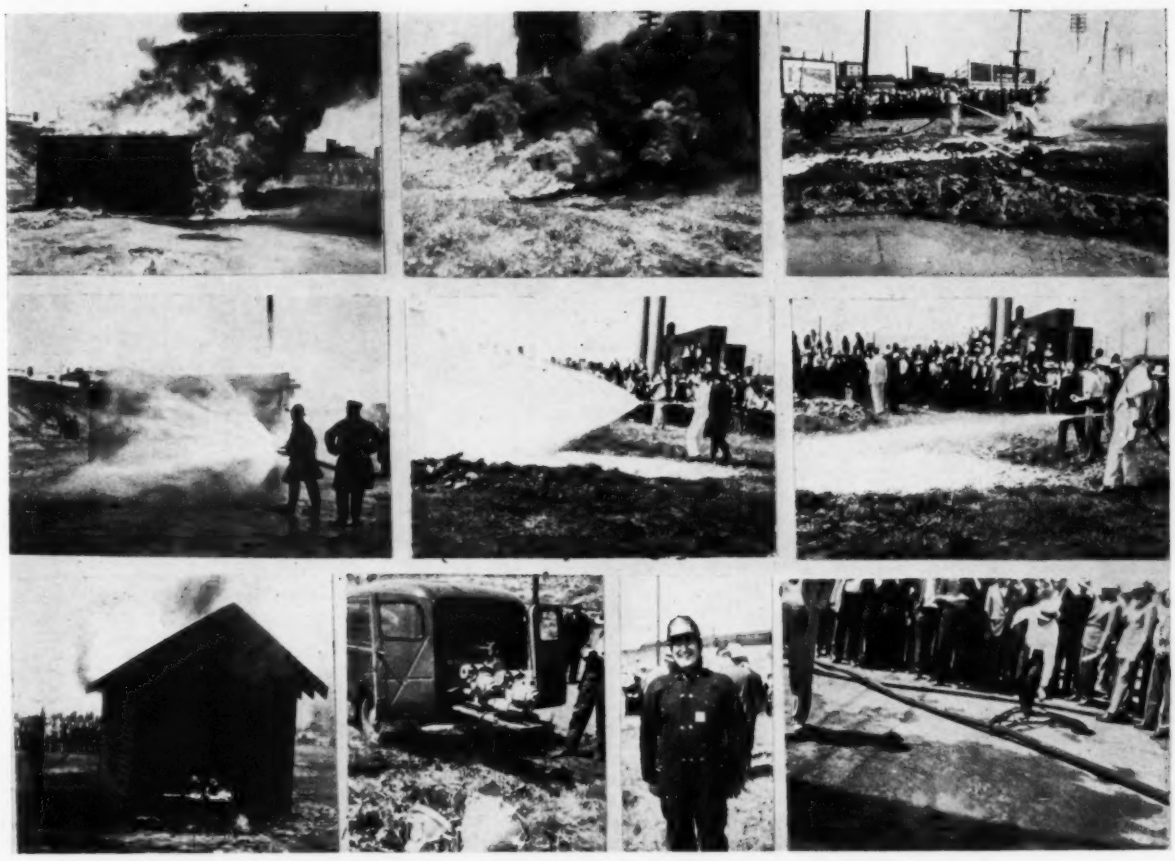
Fisher, Jesse A., Annapolis.
Orban, A. P., Towson.
Travers, Howard, Baltimore.

MASSACHUSETTS

Allen, Selden R., Brookline.
Crowe, John P., Ex-Chief, Westboro.
Davison, W. E., Sudbury.
Dickinson, Frank F., Brockton.
Dooling, Wm. J., Malden.
Fox, Henry A., Boston.
Gutheim, Herman E., Cambridge.
Harrigan, Henry J., Dedham.
Hurley, Patrick J., Holyoke.
Mahoney, William, Peabody.
Mansfield, Geo. O., Fire Marshal, Boston.
McCarthy, Chas. L., Worcester.
Shea, M. J., Fitchburg.
Soper, Arthur E., Mansfield.
Tappen, Robert M., Gardner.
Tierney, Dan B., Arlington.

MICHIGAN

Anselm, Gustav, Wyandotte.
Bender, Frank W., Jr., Saginaw.
Baker, C. F., Highland Park.



Demonstrations of Fire Extinguishing Equipment and Fire Retardent Materials Drew the Crowds at Toronto

The most spectacular demonstration of fire fighting and prevention materials ever staged by the International Association of Fire Chiefs was held at the Toronto Convention. Some of the highlights are illustrated above: Top row, left to right: Frame garage afire just before fog nozzle was put into operation; oil pit afire, just before foam stream from Phomene nozzle was applied; after the pit fire was extinguished by foam, the Phomene nozzle discharges a plain water stream and puts out a fire in a pile of oil-soaked boxes and kindling wood. Center row, left to right: Fog nozzle extinguishing fire in garage; vapor nozzle finishes up fire in oil pit; demonstrating the production of foam by Phomene nozzle. Bottom row, left to right: Frame house, built of fireproof wood, as it appeared after being subjected to conflagration temperature for two hours; Homelite demonstration set; the "Morning Pride" turnout is displayed; testing the Kellam hose clamp.

Boughner, George, Grand Rapids.
Boomgaard, Ed., Grand Haven.
Crumb, Harry C., Bay City.
Delfs, Hugo, Lansing.
Fifarek, Joseph, Traverse City.
Giasson, Geo. Ex-Chief, Wyandotte.
Griffin, J. M., Hamtramack.
Hansen, William, Manistee.
Israel, Walter F., Detroit.
Jaeger, Albert M., Ecorse.
Juhn, F. W., Pontiac.
Mottesheard, R. E., Dearborn.
Post, Donald D., Ferndale.
Shaller, Frank, Port Huron.
Smith, Chris., Muskegon.
Trombley, F. F., Sault Ste Marie.
Weeks, W. P., Battle Creek.
Wilson, R. E., Alpena.

MINNESOTA

Fisher, John A., Duluth.
Ginther, C. E., Rochester.
Putnam, H. G., Winona.
Traeger, Earl A., Minneapolis.
Turk, Louis, Chisholm.

MISSOURI

O'Boyle, John J., St. Louis.
Gardner, W. H., Chief Fire Patrols, Kansas City.
Mahoney, J. M., Kansas City.
O'Donnell, James T., Chief Salvage, St. Louis.
Urbanski, L. J., St. Joseph.

MISSISSIPPI

McDonald, L. F., Jackson.
Partin, W. F. C., Meridian.
Thompson, E. F., Gulfport.

NEVADA

Shaber, W. R., Sparks.

NEW HAMPSHIRE

Hough, Willis F., Lebanon.
Melendy, Albert C., Nashua.
Sargent, F. M., Sunapee.
Spring, Arthur W., Laconia.
Ware, Louis A., Hanover.

NEW JERSEY

Beckert, Ernest G., West New York.
Callahan, Andrew T., Harrison.
Chamberlain, Albert, Hillside.
Cordes, Fred W., Maplewood.
Cullinan, John J., Morristown.
Day, Gus L., Mendham.
Dougal, Clarence H., Livingston.
Dunn, W. J., Plainfield.
Friedel, Chas., Jr., Union City.
Gibbs, Jethro, Ex-Chief, Montclair.
Griffin, Allen, Long Branch.
Guire, John W., Long Branch.
Hayes, J. David, Millburn.
Hogan, James G., Bayonne.
Keegan, Jas. T., Salvage, Newark.
Kenah, Wm. H., Elizabeth.
Kennedy, M. J., West Orange.
Klimback, Thos. P., West Caldwell.
Kober, George E., Bloomfield.
McGinley, Chas. A., East Orange.
Mitchell, George L., Ex-Chief, East Orange.
Murray, Francis A., Teaneck.
O'Neill, W. F., Weehawken.
Reid, Robert A., Belleville.
Ridley, K. V., Ex-Chief, Teaneck.
Taggart, Wm. S., Asbury Park.
Towey, John J., Newark.
Vaughn, James L., Red Bank.
White, Thomas F., Summit.

NEW YORK

Ayrault, J. A., Medina.
Baker, Philip, Ex-Chief, Portchester.
Brennan, John J., Pelham Manor.
Brookins, L. C., Norwich.
Brown, Geo. W. M., Newburgh.
Case, I. H., Gen'l Mgr., FIRE ENGINEERING, N. Y.
Castimore, W. R., Chief & Comm., Buffalo.
Chambers, Arthur E., Yonkers.
Champ, William T., Sherburne.
Conron, Wm. F., Ex-Chief, Amityville.
Gaffney, Wm E., Watertown.
Geiselman, Edward W., Syracuse.
Gibson, John, Mt. Vernon.
Hagelston, Chas. W., Larchmont.
Huber, Charles, Endicott.
Keating, Maurice, Rochester.
Knight, Fred F., North Tonawanda.
Koppel, Fred, Oneida.
McCarthy, John W., Corning.
McElligott, John J., Chief & Comm., New York City.
Mulcahey, Jas. J., Ex-Chief, Yonkers.
Noll, Chris W., Poughkeepsie.
O'Connor, Thomas J., Chief G. E. Co., Schenectady.
Patterson, John A., Larchmont.
Reilly, B. J., Ithaca.
Shepperd, Fred, Editor, FIRE ENGINEERING, N. Y.
Smith, O. G., Larchmont.
Sullivan, Joseph N., Utica.

NORTH CAROLINA

Shuford, D. E., Hickory.
Palmer, W. H., Charlotte.

SOUTH CAROLINA

Mauldin, A. S., Anderson.
Wells, H. B., Newbury.

NORTH DAKOTA

Black, James, Grand Forks.

SOUTH DAKOTA

Sloan, William A., Sioux Falls.

OHIO

Delaney, C. A., Lakewood.
Frock, Grover L., Springfield.
Granger, James E., Cleveland.
Hand, M. M., Shaker Heights.
King, Harry A., East Cleveland.
Mesnar, R. O., Canton.
Schlorf, Fred T., Toledo.
Welsh, E. P., Columbus.

OKLAHOMA

Goff, George B., Oklahoma City.

OREGON

Grenfell, Edward, Portland.

PENNSYLVANIA

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Clark, Edwin J., Wayne.
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Sinclair, George, Toronto.
Smith, H. J., Toronto.
Thompson, D. E., New Siskraid.

QUEBEC
McCormack, E., Noranda.
Thibault, J. S., Rouyn.

MANITOBA
Boulden, D. A., Winnipeg.

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Bush, Loren S., Eng. N. F. B. U., San Francisco.
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Emory, Orville V., Dir. Public Relations, Los Angeles.
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Hirsch, Fred J., Seagrave Corp., Los Angeles.
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Privat, Ferand, Pres't. Dept., Rayne.
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Hopkins, H. L., Homelite Corp., Detroit.
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Rumsey, Edward C., Chief of Apparatus, Detroit.
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Willert, Frank L., Detroit.

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Wagner, Otto G., M.D., Fire Comm., Elizabeth.

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Booth, Geo. W., Chief, Eng. N. B. F. U., N. Y.
Burton, Thos. M., D. B. Smith Mfg. Co., Utica.
Cavanagh, H. G., American District Telegraph Co., N. Y.
Chantler, Jesse W., Asst. Chief, Sherburne.
Espe, Wm. A., Asst. Supt. Fire Patrol, N. Y.
Fenner, D. C., Mack Truck, Inc., N. Y.
Fleming, Alfred T., N. B. F. U., N. Y.
Franklin, Wm. F., Fire Alarm Consult., N. Y.
Gillooly, Frank, Federal Electric Co., N. Y.
Grager, Wm. H., Captain Salvage Corps, Rochester.
Green, Hon. Joseph H., Eureka Fire Hose, Div. U. S. Rubber Products, Inc., N. Y.
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Kuhlman, Ernest, Fireman, N. Y.
Liebermann, Leo, Inspector Combustibles, N. Y.
Mallalieu, W. E., Pres't. N. B. F. U., N. Y.
Moeller, Wm., Atlas Fire Equipment Co., N. Y.
Oakley, F. G., Buffalo Fire Appliance Corp., Buffalo.
Sofge, Benj. H., American District Telegraph Co., N. Y.
Stephens, Geo. R., Buffalo Fire Appliance Corp., Buffalo.
Stewart, Clarence D., Amer.-LaFrance & Foamite Ind., Port Washington.
Treacy, H. J., In Charge Bldgs. F. D., N. Y.
Waldron, John J. T., Deputy Chief, Brooklyn
Wallace, Leland, Captain, N. Y.
Wigg, D. Wesley, Fireman, Poughkeepsie.

OHIO
Anderson, R. C., Buckeye Iron & Brass Works, Dayton.
Monahan, S. A., Seagrave Corp., Columbus.
Schellin, J. C., Akron Brass Mfg. Co., Wooster.
Schleinitz, Wm., Dayton Fire Equipment Co., Dayton.

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Fink, S. A., Engineer, Pittsburgh.
Seth, Geo. L., Mine Safety Appliance Co., Fittsburgh.
Virgrass, Earl K., Firemen's Relief Asso., Erie.

RHODE ISLAND
Nicholo, Len A., Deputy Chief, Barrington.

TEXAS
Joyner, R. W., Eureka Fire Hose, Div. U. S Rubber Products, Inc., Dallas.
Williams, G. F., State Drill Master, Winters.

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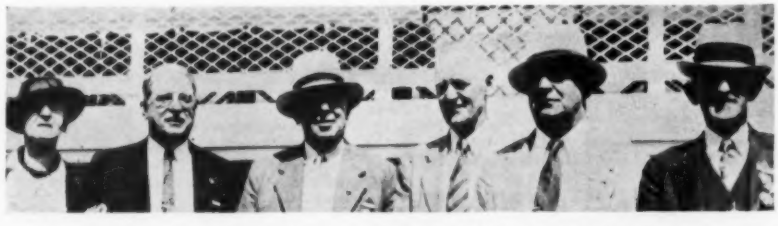
Barnett, C. D., Captain, Winchester.
Cutchins, John A., Comm. Public Safety, Richmond.
Forney, Fred W., Batt. Chief, Winchester.
Grant, J. W., M. Mechanic, Portsmouth.
Grasberger, Julius, M. Mechanic, Richmond.
Hatton, James J., Deputy Chief, Norfolk.
Lawyers, E. C., Jr., Sec. Fire Dept., Alexandria.
Raffo, J. F., Deputy Chief, Richmond.
Richardson, Edwin M., Captain, Portsmouth.

WISCONSIN
Burke, John J., Asst. Chief, Milwaukee.
Corcoran, D. J., Supt. Machinery, Milwaukee.
Pirsch, W. R., Peter Pirsch & Sons Co., Kenosha.

CANADA
Andrews, W. L., Sudbury, Ont.
Banton, Tom, Toronto, Ont.
Brown, Gordon C., Pyrene Mfg. Co., Toronto, Ont.
Burnett, Chas. G., Dist. Chief, Ottawa.
Carson, C., Director Fire Dept., Montreal.
Hall, Gordon, Bi Lateral Fire Hose Co., Kitchener, Ont.
Herd, Peter, Dist. Chief, Toronto, Ont.
Jannett, E. M., Fireman, Woodstock, Ont.
O'Connor, J., Captain, Hamilton, Ont.
Reid, Art, Dominion Rubber Co., Toronto, Ont.
Ritchie, J. E., Fire Marshal Office, Toronto, Ont.
Tonkin, C. C., Northern Elec. Co., Toronto, Ont.



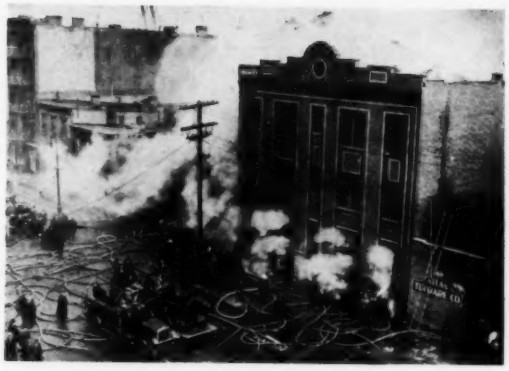
A Few of the Jersey Delegation Who Attended the Chiefs' Convention

L. to R.—Mrs. Otto G. Wagner, Elizabeth, N. J.; Dr. Otto G. Wagner, Fire Commissioner, Elizabeth, N. J.; Ex-Chief G. L. Mitchell, East Orange, N. J.; Chief W. H. Kenah, Elizabeth, N. J.; Fire Commissioner Jacob Reuter, Elizabeth, N. J., and Chief G. E. Kober, Bloomfield, N. J.

Gases, Chemicals and Hazardous Materials

Part XI

In this eleventh installment is continued the discussion of chemicals and hazardous materials more commonly encountered in fire-fighting. Methods of shipping and handling and their action under exposure to fire are given for most of the materials.



Fire in a Rubber Waste Company's Factory
Twenty-four firemen were overcome at this blaze by the dense, acrid smoke from the burning rubber.

Potassium Chlorate: This is a transparent, colorless crystalline material, or white powder. It is shipped in wooden barrels, small quantity lots in glass bottles or metal cans. It is used in the manufacture of matches, printing textiles, pyrotechnics, percussion caps and explosives.

It is a powerful oxidizing material and, involved in quantity lots in a fire, may cause explosion. Mixed with organic materials or sulphuric acid it is explosive. Crystals spilled under the feet of workmen have caused fire by friction.

In storage it should be very strictly segregated from combustible or readily oxidizable materials; sulphur, acids, and ammonia compounds. Very high temperatures have been produced at fires in which this material was involved.

Its danger to life at fires is due to the possibility of exploding when in contact with combustible materials.

Potassium Hydroxide: This material is usually found in wooden barrels and glass bottles. It generates heat on contact with water, and classes with quick lime insofar as fire hazard is concerned.

It should be stored in dry places, and kept remote from moisture.

Potassium Nitrate (saltpetre): This is a transparent, colorless or white crystalline powder, having a pungent, salty taste. It is used principally in the manufacture of black powder and fireworks. It is also used for the salting of meat (corned beef), in medicine, in the chemical laboratory, in the preparation of smoking tobacco and in fertilizers.

It is classed as an oxygen carrier, as it parts with its oxygen with deflagration when ignited with other materials, as in gun powder. It is about 48 per cent by weight oxygen and causes violent combustion in contact with such materials as oil, tallow, sulphur, jute, fibrous materials and acids, if heat is applied. Owing to the high temperatures produced, application of water to fires where this material is present may result in steam explosions.

It is commonly shipped in sacks, and sacks so used become highly inflammable, though not subject to spontaneous combustion on account of this material alone.

It should be stored in dry places, and prevented from coming in contact with organic material.

Potassium Nitrate is also known as nitrate of potash and nitre.

Potassium Permanganate: This material appears in the form of dark purple crystals. It is usually shipped in glass, metal or wood containers. It is used as a disinfectant and deodorant, bleaching, oxidizing agent, and in military gas masks for absorption of poisonous gases. It is a powerful oxidizing material and may cause explosion in contact with an acid or glycerine. It is particularly explosive when treated with sulphuric acid, and in contact with alcohol, ether, flammable gases, and combustible materials.

It presents no particular life hazard, but it should in storage be isolated from other chemicals, especially those above noted.

Potassium Peroxide: A yellowish to white amorphous, odorless powder. It decomposes in water, releasing oxygen. It is used as a bleaching and oxidizing agent.

This is a very powerful supporter of combustion and may cause ignition on contact with combustible or readily oxidizable substances. It is explosive when in contact with limited quantities of water.

It constitutes a serious life hazard, due to its explosibility under fire conditions. In storage it should be kept remote from water.

Potassium Persulphite: A white, crystalline substance or odorless powder. It is unstable, decomposing below 200 degrees F. It is used extensively in the manufacture of hydrogen peroxide; also in photography and as a bleaching agent.

It is shipped in glass bottles or earthenware jugs. It is a powerful oxidizer and promotes vigorous combustion and may cause an explosion if involved in a fire.

In storage it should be kept dry, and safeguarded against mechanical injury of containers.

Potassium Sulphide: A red crystalline material having a slight odor of hydrogen sulphide. It is shipped in air-tight, stoppered glass bottles, drums or cans.

It is used in medicine, in analytical chemistry and as a dehairing agent.

This material may ignite spontaneously in contact with oxidizing material or exposed in the air in contact with organic material. In contact with acids it liberates hydrogen sulphide gas. Incidentally, hydrogen sulphide so liberated is inflammable and may cause explosion when mixed with air and ignited.

As it yields irritating and corrosive gases when burning, it constitutes a severe life hazard in connection with a fire.

In storage it should be safeguarded against mechanical injury of container.

Caustic soda (also known as sodium hydroxide): This material is usually found in granular form and is stored in iron drums. It classes with potassium hydroxide and calcium oxide from the fire hazard standpoint. It represents no particular life hazard, but in storage should be kept away from heat and water.

Sodium: This is a light, soft, silver-white metal of wax-like consistency, lighter than water, and it oxidizes rapidly in air. It is usually stored in glass bottles and iron canisters in which the metal is immersed in kerosene.

Its uses are limited to laboratory experiments, production of sodium peroxide, etc. It reacts energetically, with water, causing enough heat to ignite the hydrogen formed by the reaction. It is thus dangerous in the presence of fire. It should be stored immersed in kerosene and confined to a dry location.

Sodium chlorate: This is a transparent, colorless, odorless crystalline substance or white powder. It is used in the manufacture of matches, as an oxidizing agent and otherwise. It is a powerful oxidizing material and supporter of combustion. It is explosive when mixed with organic material or other readily oxidizable material; also by contact with sulphuric acid. It should be isolated in storage from acids, ammonia compounds and organic materials.

Sodium peroxide: A yellowish-white powder. Not combustible, but, when water is added to it, a violent chemical action takes place, creating enough heat to set fire to flammable matter near by. It is used in the manufacture of bleaching agents, and is a powerful oxidizer. It is usually shipped in ten-pound canisters or tins.

It may cause ignition on contact with combustible materials, and is explosive in contact with water. It represent a dangerous life hazard under fire conditions. It should be stored remote from water.

(To Be Continued)

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Ammunition: A metal or other shell containing a fulminate, or containing black or smokeless powder, for the purpose of propelling projectiles or shot; or black or smokeless powder packed for use as a propelling charge or for saluting purposes.

Black powder (gun powder): Any explosive substance composed of sulphur, charcoal and either sodium nitrate or potassium nitrate.

Blasting cap: A cap, or detonator, with wires attached for exploding the same by means of electricity.

Blasting powder: An explosive substance composed of sulphur, charcoal and sodium nitrate, specially prepared for the purpose of blasting.

Questions

(To be answered in next issue)

1. While acting as company commander, your company is first to respond to an alarm of fire in a three story building occupied as follows:
   First floor and basement by a retail drug firm; the second and third floors, by living apartments.
   (a) State all the hazards of life and property which exist under the above conditions.
   (b) If you were in command of this fire for 10 minutes, state fully just what you would do and the order in which action should be taken, giving reasons for your procedure.

False and True Questions

(Is each statement false or true? Answers in next issue)

2. T F—Locating of fires is never facilitated by means of ventilation.
3. T F—Incombustible walls with no unprotected openings minimize exposure hazard.
4. T F—Roofs or other coverings over vertical shafts cause the horizontal spread of fire.
5. T F—Drafts at fires are usually created by large volumes of heated air rising and cold air rushing in to take its place.
6. T F—When two lines of hose of equal length are laid and siamesed, the friction loss is reduced about 50 per cent.
7. T F—A 2-inch water main supplies one-half as much water as does a 4-inch main.
8. T F—When three lines of hose of equal length are laid, the friction loss is increased over a single line about 85 per cent.
9. T F—Obstructed stairways constitute a life hazard.
10. T F—Protection is never afforded by the moving of material in buildings not involved with fire.
11. T F—When a fire or explosion occurs in oil tanks the flame arresters do not allow the fire to pass through the pipe.
12. T F—A proper mixture of dust and air must have an external source to ignite same to cause an explosion.
13. T F—Flame arresters are devices which, when installed in pipe fires, do not permit inflammable or explosive gases to pass through.
14. T F—Buildings used for the storage or manufacture of non-combustible material never constitute a serious exposure hazard.
15. T F—The location of the water tower in the street is important to consider when it is desired to work on fires in tall buildings.
16. T F—Sudden addition of water to sulphuric acid, if water is in great quantity, will cause an explosion.
17. T F—A fire in the basement of a building can readily extend to the tenth floor without at first involving intermediate floors.
18. T F—Fire shutters which can easily be closed by occupants of building are considered at all times good protection.
19. T F—Fires permitted to reach the stage of mushrooming generally force themselves into all openings at the top of the building.

Completion Statements

20. The pressure created by water at rest is commonly known as..... pressure.
21. The name for malicious and wilful setting of fires is.....
22. Of volume and pressure in the use of fire stream, ... is usually the most important factor.
23. The rate of change of position of a body is called.....
24. Change of position of a body (continual) is called.....

Answers to Questions in Previous Lesson

1. In this operation two lengths of hose are employed, together with a double female connection, and a short piece of one-half-inch rope (about 8-feet in length). Stretch the two lengths of hose from the engine up stairway to standpipe outlet in building. Detach house hose (which is attached to standpipe outlet); put on the double female connection and connect to this fitting the end of the line of hose you have stretched in. Use the short piece of one-half-inch rope to secure the hose firmly to the standpipe system by putting two half hitches around the stand pipe and then around the male hose connection and the double female fitting. After the half hitches have been placed, put a binding knot on each to keep the rope firmly in position. Make sure that the rope is right.

If 3-inch hose is used, then the double female connection would have to be 3-inch, and a reducer from 3-inch to 2½-inch would have to be used, or else a double female reducing connection from 3-inch to 2½-inch employed.

2. By a moral fire hazard is meant a fire hazard incidental to human weakness, such as in the case of a person desiring to make money "easily" by burning to defraud insurance companies. Examples of this type of hazard include overinsurance placed with intent to defraud insurance companies, and animosity against the owner or occupant of a building.

(b) By a physical fire hazard is meant a fire hazard due to structural weaknesses of property, or occupancies, or industries dangerous from a fire standpoint. As examples might be cited: Defective chimneys, defective exhaust systems for industries producing inflammable dusts, improperly designed oil stills, unprotected openings in fire walls, open cocklofts communicating between several buildings in a row, etc.

3. (a) The base of a 35-foot trussed type ladder should be placed 9 feet from the wall. This distance is determined by the usual method by dividing the length of the ladder by 5 and adding 2 to the result so secured. The reason for placing the foot of the ladder this distance from the building is to give it stability and make climbing easy. At the same time, as near maximum strength as possible of the ladder must be obtained. This latter condition limits the distance to which the base may be placed away from the building.

(b) The usual maximum number of men permitted on a 35-foot ladder are three. While ladders in an emergency may carry more than this number, three are considered the maximum from the standpoint of safety.

(c) Precautions necessary if the line of hose is to be stretched up the ladder and stream placed in operation include: Making sure that the ladder is securely set on ground, the line properly supported on ladder by hose straps so that when stream is put in operation the back pressure, or reaction of the stream, will not cause the men on the ladder to lose their balance. Where a fairly large size nozzle is being employed, ladders are sometimes "dogged," which consists of securing the ladder at its top to some point of the building either the window sill or inside the building below the window sill by use of "dog" chain with hook or pin on the end.

Men operating on ladder with line of hose must be equipped with ladder belts

Where ladder is to be used for rescue purposes, the ladder must be securely placed so that there will be no danger of the base tipping. In addition, one or two men may be assigned to steady the ladder at the base and prevent movement in the event load on ladder is shifting from one side to the other in the process of rescue work.

4. True; 5. True; 6. True; 7. True; 8. True; 9. True; 10. True; 11. False; 12. True; 13. False; 14. True; 15. False; 16. True; 17. True; 18. True; 19. False; 20. False; 21. True.

22. Officers in charge. . . .

23. . . . fire foam (or carbon dioxide gas). . . .

24. . . . smaller. . . .

25. . . . malice . . . hiding evidence of a crime which has been committed . . . overinsurance . . . pyromania.

26. . . . lowest. . . .

Under Dock Fire-Fighting Device.

FIGHTING UNDER-DOCK FIRES FROM DECK OF A FIRE BOAT

Newly Invented Device Consists of Self-Propelled Copper Tank, Floating on Water, Guided by Lines from Fire Boat and Throwing a Spray Upward on Fire

THE fighting of fires under docks and wharfs has long been a problem of first magnitude to Fire Departments which guard waterfronts. Ivar Offerdahl, one of the engineers of the fire boat "Alki," of the Seattle, Wash., Fire Department, has provided a solution to the difficulty. It consists of a copper tank which floats upon the water. Underneath the tank is a movable jet, which furnishes the motive power and maneuverability of the device, after fire hose has been attached to it. This jet is on a swivel and is guided by two lines. The device can then be made to go in any direction the operator desires. Another jet leads upward through the top of the tank and this is used to spray the underside of the burning dock.

Fighting Under-Dock Fires Dangerous Task

Heretofore it has been necessary to fight under-dock fires from skiffs or "pup-boats." Dragging hose from the fire boat in a skiff is a Herculean, as well as very dangerous task.

Recently one of the concrete wharves, on wooden piling, fell into the water at Providence, R. I., as the result of an under-dock fire that burned for five days—resisting all attempts of the firemen to extinguish it with their ordinary equipment.

"One, or more of my apparatus would have put out that fire," declares Engineer Offerdahl.

Just Launch Tank

All that is necessary is to launch the copper tank, detail a man to guide it, turn on the pressure and away it goes. It is small enough to go under any dock and by "sawing" on the lines it can be made to rock—thus spraying a large area.

In a recent demonstration the little apparatus hauled more than 200 feet of hose through the water with ease. Chief Claude W. Corning, of the Seattle Fire Department, was enthusiastic about it and plans to put two on each fireboat. H. H. Botten, Assistant Manager of the Washington Surveying and Rating Bureau; T. P. Evans, Chief Engineer, and P. J. Braun, Public Fire Protection Engineer, of the same organization, also praised the under-dock fire-fighting device.

Several Years Perfecting Invention

Engineer Offerdahl has been several years perfecting his invention. He says that Capt. Carl A. Anderson, skipper of the "Alki" and M. W. Patten, the other Engineer, deserve equal credit with him for the creation of the new apparatus.

Holland Heads N. C. Firemen

Chief W. E. Holland, Raleigh, N. C., was elected President of the North Carolina State Firemen's Association, at a convention held at Raleigh, August 10-13. More than seven hundred persons registered.

George McNeill, Fayetteville, a former state senator, donated a fund of $150 to be used in providing a trophy for some form of firemanic excellence, to be decided on later by the Executive Committee.

The other new officers are Mayor J. B. Flora, Elizabeth City, Vice-President; John L. Miller, Concord, Secretary; A. B. Horney, High Point, Treasurer; R. A. Joyner, Farmville, Statistician.

The fiftieth anniversary of the association will be held next year at Greensboro.

The Under Dock Fire-Fighting Device in Operation

Note spray from nozzle at top of tank, and guiding lines, by which device is directed by firemen on deck of fire boat.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SPRINKLER SYSTEM PROCEDURE BY DEPARTMENTS

SPRINKLER systems are designed to extinguish the fire while in its incipient stage. But when a sprinkler head has fused or has opened, it becomes an open outlet to the water system. Water flows out unchecked, and in large volume.

That is why it is so important that the Fire Department, when it arrives, and if it sees that the fire can be controlled by booster lines, should shut off the sprinkler system at once.

Many of the departments train the men to reset the necessary valves in a sprinkler system, and by continuous inspections, to become familiar with the sprinkler installations in their territory.

In the box on this page is the problem in full that appears in this issue. In the box on the following page is the question that will be discussed in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

Ralph J. Scott, Chief, Los Angeles, Cal.: We favor the installation of supervised sprinkler systems in order that the alarm may always be promptly received. Salvage companies and truck companies supply 100 per cent salvage service within the city through the use of appropriate salvage equipment. The entire department membership is instructed in the use of main control valves, floor control valves, and drain valves of all systems. District inspections are made so that members are familiar with valve locations.

Extra sprinkler heads of the various fusing temperatures are carried by salvage and truck companies. They also have tools for removing fused heads and installing new heads where required. Knowledge is had of the location of supplies of extra heads that may be in or on the property. If we install our heads, we require that the property owner return to us an equal supply of the same type and temperature heads. If difficulty is encountered in shutting off water, we carry various types of emergency control devices, one of which is used at the fused head or heads to control the flow at that point until control valve may be located or operated.

Companies responding to alarms where systems are involved are invariably required to replace any affected part of the system into operation as promptly as possible. In the event that it is not possible to readily replace system in operation, the owner or representative of property is at once notified of the situation, and he is left in charge.

Our men are instructed not to reset dry valves or to fill tanks. Any property equipped with dry valves or similar intricate equipment will have an engineer or other trained employee on the property, and we notify such man of the situation. It is his duty to perform all labor affecting this equipment.

E. A. Traeger, Chief, Minneapolis, Minn.: Everything known to modern Fire Department science is done to prevent excessive water damage from sprinklers, such as stopping the flow of water as soon as possible by the use of tongs or closing valves, removing and covering stock, use of chutes, sawdust, etc.

Extra heads are not carried on apparatus. Each sprinklered building has extra heads on hand and the location of such heads are on file at Fire Department Headquarters. The department replaces such number of heads as are on hand on the premises.

Fire signal operators have on hand a record of all sprinklered buildings, giving information as to the owner and occupant, kind and make of system, location of extra heads, whom to call in case of trouble, etc.

Wet systems are put into service before the department leaves the premises. In non-freezing temperatures, dry systems are made wet and the occupant notified before the department leaves.

In freezing temperatures, the premises are guarded until the arrival of the occupant or his agent, upon whom the responsibility rests for restoration of service on dry systems.

Department men are not trained to reset dry valves and fill tanks. Such auxiliary equipment is a part of building equipment, therefore the responsibility for such equipment being serviceable devolves upon the owner or occupant of such buildings.

A. McC. Marsh, Chief, Columbia, S. C.: Most of the fires that we have in buildings that are sprinkled are under control when we arrive. We lay in lines with shut-off nozzles so we can control the water. Just as soon as possible we cut the sprinkler system off to prevent excessive water damage.

No extra heads are carried, but we require extra sprinkler heads left in the office of the building. If no one is in the building at night we require that extra heads be left in a box by the valve.

Just as soon as the fire is under control and the system is shut-off, we have heads that have opened replaced with new heads and the water turned back on the system.

We require that two trained men, employees of the company that occupies a sprinklered building, have charge of the system and that they reset the valves and fill tanks.

Ambrose Saricks, Chief, Wilkes-Barre, Pa.: Where possible to reach merchandise, etc., before water will be apt to damage it, salvage covers are used, and channels made to drain water already on floors before the water has a chance to soak through to lower levels.

Extra heads are not carried by the department. After a call to a building equipped with sprinklers has been answered, a service man in this locality is notified and he in turn takes care of the system.

Department men are not trained to do this work. The local service man of the sprinkler company takes full responsibility of seeing that the tanks are filled, and the heads are properly reset.

W. P. Payne, Chief, Spokane, Wash.: Spokane has cut down water damage caused by sprinkler systems to a minimum by:

Compelling all sprinkler equipped buildings to post on each floor directions to the floor control valve. The officers of each company must learn the location of the master valve of each sprinklered unit in their respective districts. We have monthly training of all members in the use of

HERE IS THE PROBLEM

What is done to prevent excessive water damage made by sprinklers.

Are extra heads carried?

Is the sprinkler system put back into service before leaving?

Are department men trained to reset dry valves and other accessories, and fill tanks?

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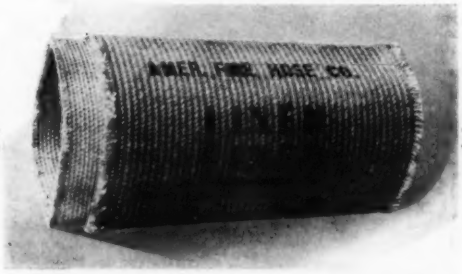

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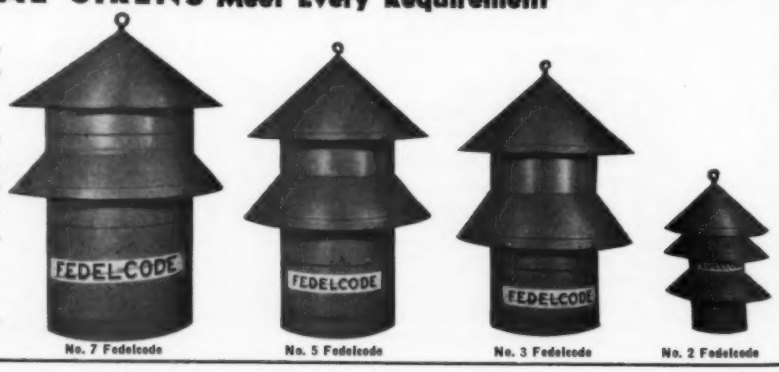

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sprinkler head shut-offs, the making of catch-alls, the use of tarpaulins in controlling the flow of water from sprinklers. All companies are equipped with tarpaulins, sponges and chamoises. All truck companies are equipped with mops, water shovels, mop buckets, squeegees, tarpaulins, sponges and chamoises. All sprinkler head shut-offs are of different types.

Extra sprinkler heads and sprinkler head plugs are carried on all truck companies.

A man from our department is always left in the building with instructions to remain until the engineer has placed the system back into service, after which the system is checked by the Inspection Bureau and reported upon.

W. Q. Dowling, Chief, Jacksonville, Fla.: Upon the arrival of the Department, if fire is such that the sprinkler system can be cut off, it is done and salvage covers are spread to protect goods not wet. If the system cannot be cut off, salvage covers are spread and chutes made to take off the water; where possible, holes are cut in floors and goods moved to advantage.

Each District Chief carries extra heads in the car. The sprinkler system is put back in service before the department leaves. If the firm which owns the building has not enough heads, we use the department's heads and then return at a future date to get them back.

Dry systems are not used in this section of the country to any extent.

S. Ferguson, Chief, Fort Worth, Tex.: Sprinkler valves are closed, and the water is cleared from the building as fast as possible with broom, mops, etc., to prevent excessive water damage by sprinklers. Extra heads are carried on all ladder trucks.

Before leaving the scene of the fire, all heads are replaced and valves opened and sealed with Fire Department seals.

Our drill tower is equipped with both wet and dry sprinkler systems and all men are trained to take down and reset valves.

James E. Granger, Chief, Cleveland, Ohio: All company officers, through routine inspections, are throughly familiar with valves connected with the sprinkler systems in their respective company districts. The hook and ladder trucks and rescue squads are equipped with Seegar sprinkler tongs, to close heads while water is being drained from system. To protect men from exposure to water, particularly in cold weather, we have a waterproof canvas hood, with a mica window.

All hook and ladder trucks and rescue squads carry extra sprinkler heads and wrenches.

The sprinkler system is always placed in service before the apparatus leaves.

Our men are not trained to reset valves or other accessories or to refill tanks. A person qualified to do this is called, the valves reset, and tanks filled before we leave.

Robert Jones, Chief, Chattanooga, Tenn.: It is a well established fact, and fire statistics will show that water damage from excessive sprinkler flows is a material factor in practically all fires, and so to prevent this excessive water damage, the sprinkler valves are shut off as soon as possible after the fire has been extinguished. If it is determined that the fire can be controlled or extinguished with a booster or chemical tank line, the sprinkler valve is immediately turned off.

No extra heads are carried by the department.

Every effort is made to have the sprinkler system back in service before leaving and the Tennessee Inspection Bureau is notified of all sprinkler systems not left in operation. They take immediate action to see that the sprinkler is placed back in service at once.

The men of this department are instructed how to reset sprinkler valves and must know the type (wet or dry) and location of such valves in their respective districts.

Henry R. Taft, Chief, Norwich, Conn.: To prevent excessive water damage, we shut the water off if the fire is under control, after laying in hose lines to take care of emergencies. We then remove water from floors with squeeges and brooms.

My department does not carry extra heads, but we question the owner of the building as to whether he has any on hand to replace the ones that fused.

We always see that the heads are replaced and the system put back into service before leaving either a dry or wet system. If the system is of the dry type and something is wrong with the clapper valves, so that it cannot be set dry, we advise that the system be set wet until repairs are made.

Some of the officers are trained to reset both dry or wet systems and all the men can take care of accessories and tanks.

Frank Charlesworth, Chief, Providence, R. I.: To prevent excessive water damage, we spread tarpaulins, shut off sprinklers as soon as feasible, and replace heads.

Extra heads are carried by all Chief Officers and defective heads are replaced and billed to the owner by the Grinnell Sprinkler Company.

No building is left until system is in service.

In case of a dry system, if the engineer or superintendent is not present, they are notified and a detail is left on the premises until they arrive. While our men understand dry systems, we feel that this system should be taken care of by the owners or occupants. We fill all tanks.

I might add that the sprinkler heads are loaned us by the Grinnell Company. When we have defective ones, new ones are exchanged and billed by the Grinnell Company to the buildings in which the fire occurred.

Wm. Freeh, Chief, South Bend, Ind.: To prevent excessive water damage made by sprinklers, we act in the following manner: Whenever possible, tarpaulins are first put into use and complete covering is attempted; we concentrate entirely upon the water flow and as soon as possible the flow is discontinued; drains are opened and all open heads are then equipped with sprinkler head stops; following this procedure a hasty cleanup is carried out. We carry extra heads.

We endeavor to contact a company representative to restore the system to its proper condition after a fire.

Barney J. Houston, Chief, Cincinnati, Ohio: Members are required to have full knowledge of all sprinklered risks in their respective fire districts, their operation, and maintenance.

Extra heads are carried by truck companies and replacements are made when needed.

Department members or the Fire Patrol crew see that system is in working order before leaving the scene of fire. Department members are instructed how to reset dry valves and fill tanks.

E. F. Dahill, Chief, New Bedford, Mass.: When our hose lines are laid and the fire is under control, we shut off the sprinklers in the section involved to lower the water damage. Every District Chief carries at least six sprinkler heads and wrench.

We endeavor to have the foreman or watchman of the plant install new sprinkler heads as soon as possible, and we always try to have sprinkler service restored before we leave.

Department officers inspect all plants in their districts at least annually. Master fire alarm boxes connected to sprinkler systems are tested monthly. Officers have all been instructed how to reset sprinkler valves, etc., and to see that this is done before leaving the fire ground.

Arthur Chambers, Chief, Yonkers, N. Y.: As most of our sprinkler systems are connected by auxiliary direct to the Telegraph Bureau, we are able to respond in time to prevent excessive water damage. Where several heads are in operation tarpaulins are spread to care for flow of water pending time required to shut off system. The Rescue Company is equipped with necessary appliances and they clean up the premises, and segregate the dry materials from those spoiled by water.

Extra heads are carried on rescue company apparatus. The units also carry various size wrenches and tools for such use. In addition, the risks are all instructed to place in a predetermined location in their office, sufficient heads to care for any emergency.

The sprinkler system is always drained, refilled and placed in service before leaving.

The rescue company is trained to reset dry valves and other accessories and fill tanks.

C. L. Ingram, Chief, Montgomery, Ala.: Emergency heads are used to prevent excessive water damage made by sprinklers. We shut off the gong, leave the system filled with water, and notify the occupant of the building.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Due to the large response, this discussion will be concluded in the next issue.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Water Ram

To the Editor:

Kindly explain the principle of a "water ram." W. D. M.

Answer: With reference to "water ram," it is a phenomena which occurs in pipe lines, hose lines, etc., carrying water, and where the flow is suddenly checked. In the case of a hose line fitted with shut-off nozzle, the nozzle is opened and all of the water in the hose line is put in motion. After it has obtained full velocity, under the pressure imposed, and the nozzle is suddenly stopped, the motion of all of the water in the hose must be stopped almost instantly. The result is a sudden increase in pressure and water ram, or hammer.

Open Butt Discharge, Etc.

To the Editor:

1. Will you kindly give me the method used in finding the discharge from open butts?

2. A 1,000 gallon pumper is connected to a hydrant. A 1,000 foot line of 2½-inch hose is connected to this pumper. The other end of this line is connected to a 750-gallon pumper which in turn is pumping through a 200 foot line of 2½-inch hose siamesed into two 150 foot lines of 2½-inch hose with 1-inch tips. The first pumper is delivering water at 315 pounds pressure at the pump and 79 pounds showing on the compound gauge. The second pumper is delivering water at 110 pounds pump pressure with a compound average of 10 to 12 pounds.

What would the delivery of water in gallons per minute be at the second pumper (750 gallons)? P. S.

Answer: When solving problems for the discharge of water from open butts, the same procedure is followed as in the case of lines of hose with ordinary nozzles. However, due to the abrupt reduction in area at the open butt, and the absence of a gradual tapering of the waterway (as found in nozzles) the value of K solved in the usual manner would not be correct.

For 2½-inch open butt, the value of K (for 2½-inch hose) is 2.5. The figure 2.8 has been frequently used for the value of K for 2½-inch open butt, but it is less accurate than 2.5.

For 3-inch open butts on 3-inch hose, K is 2.

For 2½-inch open butts on 3-inch hose, K is 1.

The solution to the second problem you give, wherein two pumpers are hooked up in relay, is given below:

The first step is to combine the two parallel lines of 2½-inch hose. The factor for changing the parallel 2½-inch lines to a single line of 2½-inch is 3.6.

150 ÷ 3.6 =41.7 feet of a single line, 2½-inch hose.

Add this length of hose to the 200 feet feeding the branch line, and we have a total of 241.7 feet of 2½-inch hose in a single line from the engine to the nozzle.

The next step is to combine the two 1-inch nozzles.

This is done by squaring the diameter of each, adding the squares, and abstracting the square root of the sum. The square root of 2 equals 1.414, which is the diameter of the nozzle equal in size to the two 1-inch nozzles.

K for a 1.414-inch nozzle on 2½-inch hose is equal to

1.414 x 1.414 x 1.414 x 1.414 ÷ 10 = 0.4.

L (no. of 50-foot lengths of hose in the line) = 241.7 ÷ 50 = 4.834.

N.P. = E.P. ÷ (1.1 + K L)
= 110 ÷ (1.1 + .4 x 4.834)
= 110 ÷ 3.0336 = 36.26 pounds.

Discharge from the combined nozzle $= 29.7\ d^2 \times \sqrt{p}$
$= 29.7 \times 1.414 \times 1.414 \times \sqrt{36.26}$
$= 29.7 \times 2 \times 6.02 = 357.6$ g.p.m. approximately.

This is the discharge from the second pumper.

You will note that no consideration is given the first pumper nor the line of hose between the first and second pumpers. This part of the problem need not be solved for you have the discharge pressure at your second engine, which is 110 pounds, and you have the layout from that point to the nozzle. Hence all you are required to do is as shown above, namely, solve for nozzle pressure and discharge from the layout consisting of 200 feet of 2½-inch hose branched to two parallel lines of 150 feet of 2½-inch hose, and each equipped with 1-inch nozzles, engine pressure being 110 pounds.

Solving for Nozzle Pressures on Branched Lines

To the Editor:

An engine at 110 pounds is pumping through a line of 2½-inch hose, 600 feet in length. This line is divided by a two way Y. From one branch of the Y is stretched 50 feet of 1½-inch hose equipped with a ⅜-inch tip; from the other 100 foot line of 1½-inch hose fitted with ½-inch tip.

What is the nozzle pressure?

What is the procedure employed in reducing a ⅜-inch tip and ½-inch tip when figuring out nozzle pressure in this layout?

How do you derive the constant K?

What is the factor employed for changing four 3½-inch lines of hose to a single line of 2½-inch? C. H.

Answer: The first step is to average the length of the two lead lines:

50 + 100 ÷ 2 = 75, which is the average length of these two lines.

Change each line to 2½-inch hose by dividing by the factor 0.074.

75 ÷ 0.074 = 1013.5 feet of 2½-inch hose.

We thus have two parallel lines of 2½-inch hose of this length.

Combine these two parallel lines into a single line of 2½-inch hose:

1013.5 ÷ 3.6 = 281.5.

Then add this length to the length of 2½-inch given in the original layout and we have a total of the 2½-inch single line of 881.5 feet.

Then combine the two nozzles. This is done by squaring the diameter of each nozzle, adding these two squares and abstracting the square root of their sum.

⅜ x ⅜ = .375 x .375 = .14 approximately.

½ x ½ = .5 x .5 = .25.

0.14 + 0.25 = .39.

$\sqrt{.39}$ = .6245 or .62 inches approximately.

This is the diameter of the combined nozzle.

K for .62-inch nozzle on 2½-inch line of hose
= .62 x .62 x .62 x .62 ÷ 10
= 0.0152.

L (the number of 50 foot lengths of hose in the line)
= 881.5 ÷ 50 = 17.63.

N.P. = E.P. ÷ (1.1 + K L)
= 110 ÷ (1.1 + 0.0152 x 17.63)
= 110 ÷ 1.368 = 80.4 pounds.

If discharge is wanted, solve using nozzle diameter as 0.62 inches. Discharge so found is the combined discharge from the two nozzles.

To find the pressure at each nozzle separately, find the friction loss from the engine to the Y connection. Deduct this friction loss from the engine pressure and the remainder is the pressure at the Y connection. Consider this pressure at the Y connection as engine pressure on the two branch lines and solve for nozzle pressure in each case.

It may be found that by securing the

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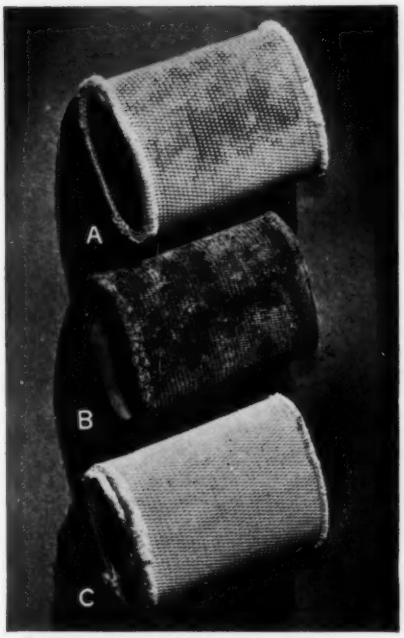

A Not processed for mildew protection.
B Processed for mildew protection by a competitor.
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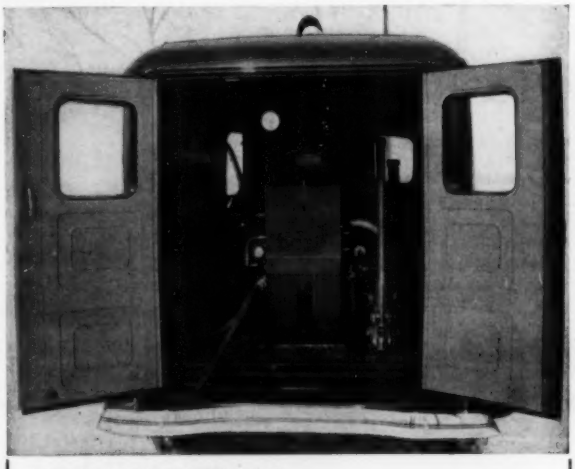

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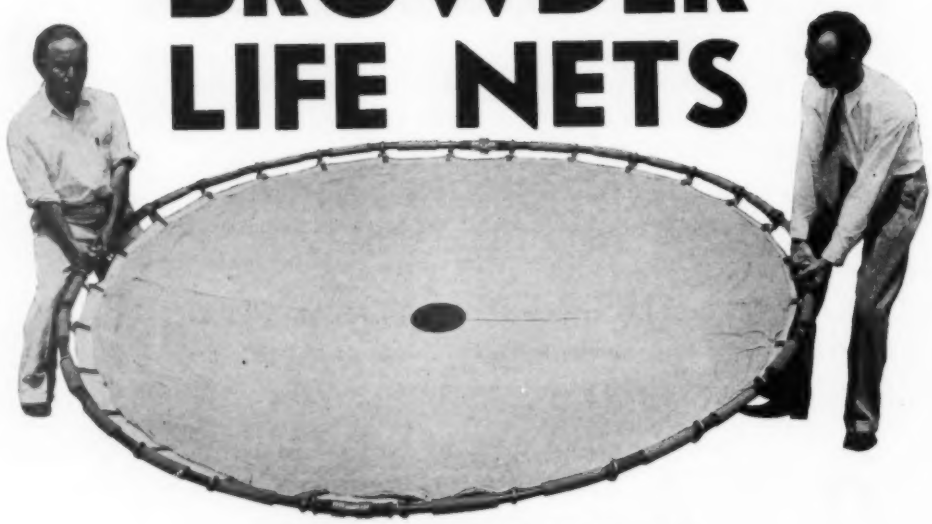

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nozzle pressures independently by the above means and finding their discharges independently, the total discharge so found will differ from that of the combined nozzle of 0.62 inches diameter. The difference cannot be avoided, as these methods of solving are only approximate. The factor for changing four 3½-inch lines of hose to a single line of 2½-inch is 72.

CLOSED APPARATUS PROVES SAFER IN FIRE TRUCK COLLISION AT DETROIT

One Killed and Two Injured on Open Truck, But No Casualties in Closed Car

By Moore Meigs

THE contention that closed fire apparatus affords greater safety to firemen than the open type was thoroughly and forcibly proved at Detroit, Mich., on August 20, when an unfortunate collision between open and closed trucks of the same approximate weight resulted in the death of one and injury to two men riding on the open apparatus, while the entire crew of the closed engine escaped without a single casualty.

In response to a box alarm from First and Abbott Streets, Engine No. 1, a new enclosed 1,000-gallon pumper, was forced by traffic conditions to take a route different from the one usually followed in answering alarms from this locality, with the result that at the corner of Lafayette and Cass Avenues, it was struck by the apparatus of High Pressure No. 1, which was rolling to the same box. The heavy high pressure wagon collided with the enclosed engine with such force that it was turned completely around and almost upset, while the pumper remained upright, in spite of the fact that it was the vehicle which received the impact.

Not One of Closed Truck Crew Injured

The crew of the High Pressure company were thrown from their places to the pavement, and Acting Lieutenant Joseph Hallman was pinned underneath his own apparatus, receiving injuries that resulted in his death shortly afterward. Firemen Elmer Graham and Kenneth Duff also received painful, but not serious hurts as a result of being pitched into the street. On the other hand, the entire personnel of the engine company came through with no injuries whatsoever, and Lieutenant William J. Vaughn, the officer in charge, stated that "if we had been in an open engine, we would all be in the morgue right now."

Policy of Purchasing Closed Apparatus

The Detroit department has adopted a policy of purchasing only closed apparatus and the engine involved was the first of four recently ordered, which had been in service only about a month. The accident, while regrettable, proved to the satisfaction of department officials that men are safer riding inside rather than riding on running boards and the rear step. The conditions of the collision, with the closed car being struck by the open car, were such that the closed engine should have come off second best, but exactly the reverse was true.

As is usually the case, the fire to which the companies were responding was of minor importance.

Chief Chambers to Retire

Chief Arthur E. Chambers, head of the Yonkers, N. Y., Fire Department, will retire on November 21, because of a local ruling which makes mandatory retirement when reaching the age of sixty-four. This is the same ruling which forced the retirement of Ex-Chief James J. Mulcahey, his predecessor.

Chief Chambers was appointed to the department on May 1, 1901. He became

Chief Arthur E. Chambers

a Lieutenant on August 2, 1902, a Captain on May 5, 1918, Third Assistant Chief in 1921, Second Assistant Chief in 1924, First Assistant Chief in July, 1931, and Chief in December, 1931.

He has stood firmly by his men, and in 1934, when a local civic association claimed that the Yonkers men could not measure up to the standards of New York City, said:

"No braver, more loyal or efficient group of men ever served any city than the firemen of Yonkers."

Last summer, he and his family enjoyed a vacation trip to Europe. Department associates, local residents and friends in the New York Fire Department gave him an outstanding sendoff.

Chief Chambers has been very active in fire associations. Last summer he was elected Vice-President of the New York State Association of Fire Chiefs.

The Compulsory Retirement Act was passed in 1931, and applies to the Police and Fire Departments.

Dominion Chiefs Meet

The annual convention of the Dominion Association of Fire Chiefs was held at Windsor, Ont., August 26-28. Opening talks were made in both English and French.

W. J. Scott, Provincial Fire Marshal, explained arson conditions in Ontario. He said that while the province had one-third of the fires in the Dominion, it succeeded in obtaining one-half of the arson convictions.

Chief C. J. DeFields read a paper on the automatic sprinkler. It was discussed by a number of Chiefs, who felt that automatic sprinkler installations were a benefit to the community and no taxes should be assessed on them. Chief DeFields said that about $250,000 had been invested in sprinkler systems in Windsor. Chief George Sinclair, of Toronto, outlined the work of the training school in his city.

Chief Edward Rumsey, Superintendent of Fire Apparatus, Detroit, spoke on "How Long Should Pneumatic Tires be Used Before Replacing?" He said pneumatic tires permit greater speed.

Chief W. J. Lynch, Belleville, told of the work of the Fire Department in coping with flood conditions in his city last March. Chief J. Record, Port Hope, also spoke of flood conditions.

Chief and Mrs. DeFields were presented with a handsome silver service by the visting Chiefs. He was also honored by being elected President at the closing session.

Chief J. Hartley, Brockville, was elected First Vice-President; Chief J. N. Longval, Shawinigan Falls, Second Vice-President; Chief James Armstrong, Kingston, Secretary-Treasurer. Provincial Vice-Presidents were named as follows:

Chief A. Dutton, Edmonton, Alberta; Chief Charles Thompson, Vancouver, British Columbia; Chief Alex Buchan, Winnipeg, Manitoba; Chief B. S. Robbins, Yarmouth, Nova Scotia; Chief A. E. O'Donnell, Campbellton, New Brunswick; Chief E. Caswell, Cochrane, New Ontario; Chief T. J. Turpin, Cobourg, Ontario East; Chief William Chestney, St. Catharines, Ontario Centre; Chief H. Sutton, Guelph, Ontario West; Chief A. D. Cameron, Fort William, Ontario Northwest; Chief A. Cunningham, Saint John, New Brunswick and Prince Edward Island; Chief Jules Legualt, Longeuil, Quebec, and Chief W. A. White, Regina, Saskatchewan.

The next convention will be held at Oshawa.

Wisconsin Firemen Re-elect Johnson

For the third consecutive term, George Johnson, Racine, Wis., was elected President of the Wisconsin Paid Firemen's Association, at the convention held at Racine. The other officers who were re-elected are J. T. Harrington, Kenosha, Vice-President; William H. Schultz, Sheboygan, Secretary-Treasurer.

There was a lengthy discussion of the legislative problems which will interest the association during the 1937 session of the legislature. The next convention will be held at Wisconsin Rapids.

Our inquiring reporter overhauls the firemanic news of the day.

Wanted—Some Firemen!

Haworth (N. J.) has a modernized alarm system, a neat fire house and two shiny engines—but few Vols. Fire Commissioner H. A. Wheeler, son of as ardent a vamp as ever quit his business to rush to a brush-fire, says that modern youth seem to have soured on serving as Vols. and pleads that something be done about it. Reason? Too many other attractions (and perhaps too few fires in this place of 1,400 souls). "If people of this town continue to ignore situation and youth don't come forth, we'll have to install paid department," is way he puts it. A survey showed 27 young men between ages of 21 and 35, all eligible—but not one willing to enroll. What to do?

Boys Will Be Boys!

Youngsters playing near a creek in Pruntytown (W. Va.) found a turtle. To make it "speed up" one poured gasoline on its back and applied a match. Flames leaped up, set fire to clothing of 12 year old James Cain—burned him to death.

* *

Leo Kowalski, Jr., and four companions played in straw shed at Hydes (Md.). Hay caught fire, trapped Leo who was burned to death. Others escaped. Spectators held mother back who would have perished in attempted rescue.

* *

Nine year old boy confessed to starting fire that cost one fireman his life and resulted in most threatening blaze Lawrence (Mass.) had in years, sweeping two city blocks.

* *

In spirit of 'play' one of four small boys threw newspaper afire down gutter manhole in Yonkers (N. Y.) to see what would happen. It did! All boys injured in resulting blast and taken to hospital.

* *

When 30 frightened Boy Scouts, occupants of truck from which firecrackers were tossed, starting $30,000 Middle West prairie fire, were confronted by camp director who reminded them of their Scout oath, and asked them to confess, sixteen stepped forth as guilty.

* *

Using broom and wire as bait, Nicholas Montenarano, 10, went fishing for locomotives on Long Island (N. Y.) R.R. All he caught was shock from 11,000-volt high-tension feeder. Rushed to hospital —second-degree burns.

Well, Well, Can This Be Month's "Tall Story?"

Charles F. Maulen, Gamewell Company, Dallas, Tex., hands us this one (from Dallas Times Herald, Aug. 2, '36): FIRE IN FIREHOUSE. Dayton, Ohio (I.N.S.),—A fire alarm was turned in here recently, but the engines didn't leave the firehouse. The reason? The fire, which caused $20,000 damage, destroyed the fire truck, 1,400 feet of company hose, and two adjoining buildings.

Watering Elephants Held Legal Use of Hydrant

Fire Chief Clarence Abels, of Dravosburg, suburb of Pittsburgh (Pa.), was haled into court by water company, charged with giving 1,000 gallons of water from fire hydrant to four circus elephants and a camel. W. H. Schofield, Sup't of water concern, declared: "That violates our contracts that fire hydrants can be used only for quenching, or quelling fires." Chief Abels retorted: "Maybe this gentleman could tell me what proof he has those animals weren't on fire?" Sup't countered: "I doubt an animal could be afire without showing some symptoms." Abels replied: "So they did. Just look at all the water it took to extinguish them." Alderman A. T. Spence said: "Case dismissed."

Fireman's Life Is Not a Happy One

Fighting fire seems to be only *part* of the job of the smoke-eater. Here are some current news items to prove it:

In Windsor (Ont.) firemen answered alarm that came from Windsor woman vacationing in Detroit. Said she left the water heater in her home turned on and asked F.D. to turn it off.

* *

When John Pierce, aged 18, plunged 150 feet to death in Havana Glen, Montour Falls (N. Y.), firemen were called to rescue youth with ropes.

* *

When only bridge over Black River, Lorain (O.), stuck open, due to intense heat, firemen were called to spray swollen parts with water to enable span to be closed.

* *

George Dyck tried to trim tree at home in Omaha (Neb.). He cut off branches as he ascended. Reaching top he had nothing to hang on to, so neighbors called F.D. to rescue him with ladders. They did!

* *

Wilbur Danyanovitch, aged 21 (New York City), decided to become 'human fly.' Picked a 12 story building on Fifth Ave. and started up outside. Crowd of 2,000 persons gathered. Someone, noting amateurish efforts, called F.D. Nets were spread ready to catch youth, but cops ended his career by snaking him through window.

* *

One of our readers in New Jersey State Hospital, Gray Stone Park, sends us item telling about two starlings that got stuck in leader pipe of local Fire House. After hour's efforts with jack-knife, etc., Chief Acker and aids cut them out safely and revived them to re-join the bird colony on the House's roof.

* *

When some communist or mischievous youth raised red flag in front of Supreme Court Building, Washington (D. C.), F.D. was called as last resort to lower rag and destroy it with torch.

* *

Ten-year old Junior Wyatt, Jackson (Mich.), was rescued by firemen and policemen after he had sunk to his neck in muck near a mill pond. Rescue effected by fireman Herbert Crawford by aid of empty oil drum. At one stage Crawford himself slipped from drum and was pulled from ooze by Lieutenant Ray Howard, another city fireman.

"Ad" in the "Visiting Fireman"

Charles L. Martin, "Trustee and Past Fire Chief of Versailles Vol. F.D." (and member of more fire companies and associations than we have room to print) gets out a "snappy" little magazinelet called "Visiting Fireman." We note this adlet in a recent issue:

For Sale

Chevrolet Chemical Truck, with three 40 gallon chemical tanks, rough riders and ladders. *Will trade for something useful* (italics are ours). Also have for sale 4 parade drums, 1 bass drum, 8 bugles with extra slides. Address I. Y. Hamilton, Sec'y, Houston, Pa.

Well, we'd liketa know what this advertiser means by "something useful."

Why the Delay?

A "Constant Reader" sends this, clipped from American Legion Weekly: "A citizen who maintained a pawnshop took out a fire insurance policy. The same day a blaze broke out that destroyed the building and its contents. The insurance company tried in vain to find sufficient grounds to refuse payment, and was obliged to content itself with the following letter appended to the check:

"Dear Sir: We note that your policy was issued at ten o'clock on Thursday morning and that the fire did not occur until three-thirty. Why this unseemly delay?"

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair —if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."

To Make Your New Fire Truck Equipment Complete

Specify— KANT-BLAZE FIRE BLANKET

Absolutely Invaluable
For SAVING LIFE and PROTECTING PROPERTY

It Won't Blaze Even at 1200° F.

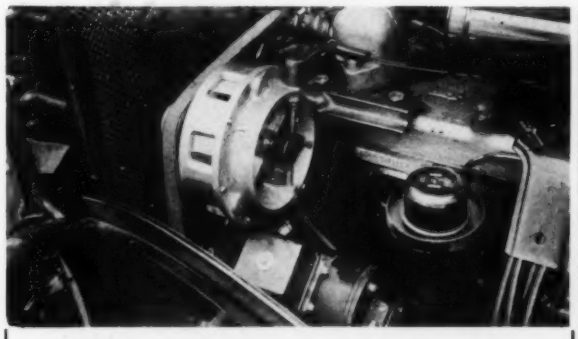
BLANKET
including metal case or knapsack
$15

DEALERS WANTED

"CLOSES THE GATES TO FIRE" KANT-BLAZE ESTABLISHED 1910 UNITED

Here is one of the smallest items you can buy — yet it will prove one of the biggest investments you have ever made. These blankets (5'4" x 7'4"), thoroughly flameproofed, packed ready for instant use, will cover their cost the first time you use them. Hundreds of fire departments, as well as schools, hospitals, laboratories, etc., have put them to excellent use in rescue work or for smothering fires. Many of the ablest fire chiefs in the service endorse them highly. You may need them on your next run. Order now.

UNITED PYRO-CHEMICAL CORP.
434 UNION STREET LYNN, MASS.



129 Plymouth Radio Patrol Cars equipped with H. O. R. SIRENS have just been delivered to New York City. (We delivered 265 to them in 1935.)

MODERNIZE
With Mechanical SIRENS

These new mechanically driven sirens are mounted directly on motor block in a rigid position, requiring no swinging motion to be operated. They are directly connected to the fan belt similar to the generator and fan of car. This will automatically eliminate wear and tear as they do not need to be swung against belt when they are blown.

Write for Catalog. Dealers Wanted.

H. O. R. Co., 10 Broad St., Stapleton, S. I., N. Y.

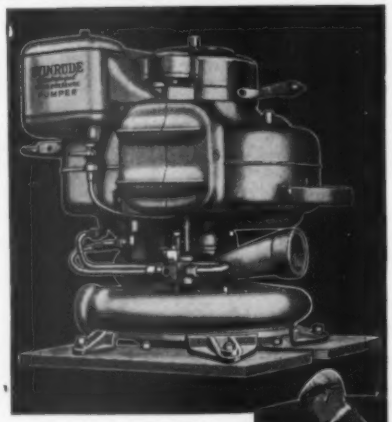
SAVE WITH *Shuredry* SALVAGE COVERS

Fully 75% of the fire loss is due to water damage. Shuredry Salvage Covers are an essential part of the equipment of progressive Departments everywhere. Leading Chiefs endorse Shuredry. You can better your record, too, by using these covers.
Shuredry Covers lead because they weigh less, cost less, will not crack when folded . . . give better protection. *Samples and prices gladly furnished. Ask for them today.*

Reduce
WATER DAMAGE · INSURANCE RATES

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

UP TO
154 Gals. per Min.
UP TO
150 Lbs. Pressure



FIRE FIGHTING

High capacity with high pressure. Write today for complete performance tables and specifications on this newest type, smooth running, four cylinder Evinrude Fire Fighter. Develops 9.2 H.P. at 4000 R.P.M. Latest, modern, hooded power type motor. Sand and other foreign substances handled without wear by simple, non-friction, centrifugal pump of exclusive Evinrude design. Write EVINRUDE, 4587 N. 27th St., Milwaukee, Wis.

EVINRUDE HIGH PRESSURE PUMPER

SOOT BLAST
Puts out chimney fires

Repeat orders prove its value!

5 minutes and a package of SOOT-BLAST, sprinkled over flames at base of chimney, will put out any chimney fire.

Try a case and see!

$4.50 per case 12-26 oz. packages 100-lb. bags $12.50

THE STEBIS CO., Inc., Minneapolis, Minn.

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

COMPLETE INFORMATION UPON REQUEST

THE AMERICAN RUBBER MANUFACTURING CO.
OAKLAND, CALIFORNIA
Dealers in All Parts of the Country

TANNOSPRAY FOR BURNS

THE TANNOSPRAY KIT, for fire department use, is the only self-contained TANNIC ACID unit that is entirely practicel for emergency treatment of burns on the scene of the fire.

Non-technical, it can be operated correctly by the layman with fine results.

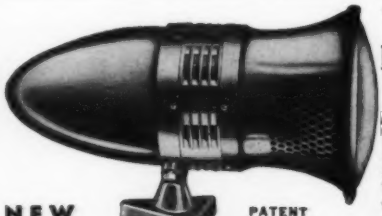
TANNIC ACID is recognized as being the only thoroughly scientific treatment for burns of both a major and minor nature.

Your post-card will bring complete literature, specifications, price information and other kindred data.

No obligation, of course.

ILLINOIS EQUIPMENT CO.
2507 RIDGELAND AVE - BERWYN, ILL.

You can HEAR *and* SEE IT!



NEW PATENT PENDING

SIRENLITE

Combination No. 20 Siren and Powerful Red Flashing Light. Price—$49.50.

A powerful siren and light combined. The most practical warning device for all apparatus. A precision built instrument, same sturdy construction as all Sterling Sirens. Write for bulletin.

The Sterling Siren Fire Alarm Co., Inc.
ROCHESTER, N. Y.

FIRE DEPARTMENT SUPPLIES

Wire, write or phone us if you are in need of equipment or supplies. We handle a very complete line and will be glad to supply you any item you need. We'll be glad to quote you prices on any item.

Send for catalog.

THE WOODHOUSE MANUFACTURING COMPANY
156 CHAMBERS STREET, NEW YORK

D. A. WOODHOUSE, Pres. and Gen. Mgr. — GEORGE J. KUSS, Vice-Pres. and Treas.

WATEROUS COMPRESSION FIRE HYDRANTS

Waterous Dependable

ESTABLISHED 1886

WATEROUS COMPANY
SAINT PAUL, MINNESOTA

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of August, 1936. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending August 31	Thousands of Dollars Loss in
Bristol, R. I.—Dairy barn on late Samuel P. Colt farm	$85
Sag Harbor, L. I., N. Y.—The "Lucerne" houseboat owned by Geo. Leary, Jr.	70
Weston, Mo.—Business and residential property damaged	475
Seneca, So Dak.—Business block destroyed.	50
Janesville, Wis.—Portion of freight train on Chicago, Milwaukee, St. Paul & Pacific R. R.	125
Mt. Pleasant, Ia.—Central Section of Hospital for Insane	150
East Liberty, Pa.—Building occupied by Liberty Radio Co.	50
Clifton, N. J.—Hamil Silk Throwing Plant destroyed	50
Tyler, Tex.—T. E. Swann building damaged	50
Detroit, Mich.—Carlson Sign Studio on Brush St., damaged	170
Ottumwa, Iowa—Wapello County Home, 3 miles northeast	125
Philadelpia, Pa.—St. Petersburg Cafe in Plymouth Township	50
Sweetwater, Idaho—Elevators of Lewiston Grain Growers, Inc., also freight cars of Camas Prairie R. R.	170
Burley, Idaho—Elevator of Burley Feed Mfg. Co., destroyed	55
San Francisco, Cal.—Resin plant of Beck, Koller & Co.	125
Omaha, Neb.—Omaha Western League Baseball park, adj. property	50
Coulee City, Wash.—Warehouse of Centennial Mills, adj property	50
Edcouch, Texas—Several bldgs. and baled cotton	50
San Francisco, Cal.—Iceland Skating Rink destroyed	80
Portland, Ore.—McCleay bldg. damaged	50
Wooster, Ohio—Block of business property.	70
Monticello, N. Y.—Kiamesha Mansion, two miles out	50
International Falls, Minn.—St. Charles Hotel and adj. property	100
Madison, Wis.—Paley Bros. junk warehouse destroyed	50
Portland, Me.—Libby bldg., owned by Chas. Bickford	80
Albuquerque, N. Mex.—J. C. Baldridge Lumber Co. plant	70
Sonora, Cal.—Several bldgs. and equipment at Black Oak Mine	80
Waterbury, Conn.—Property owned by W. L. Hall Distributing Co.	120
Port Arthur, Ont.—Grain elevator leased by Manitoba Wheat Pool	80
Peoria, Ill.—P. & P. U. R. R. freight house and adj. property	50
Kirkland Lake, Ont.—Whse. of Yolles Furniture Co., other property	80
Vancouver, B. C.—Arena and other West Georgia St. business property	450
Montreal, Que.—Planing mill of Gilchrist Lumber Co.	50
Greensboro, N. C.—Schiffman's jewelry store damaged	80
Wabash, Ind.—Old Daugherty sales barn destroyed	50
Moscow, Idaho—Hagen & Cushing packing plant destroyed	70
Jamaica, L. I., N. Y.—Dornbush dept. store and adj. property	125
West Palm Beach, Fla.—Docks and warehouse property	80

Fred A. Nickel has been elected Chief of the Manhasset-Lakeville, N. Y., Fire Department. The other officers are Edward C. Smith, President; C. G. Hamel, Vice-President; William Bickell, First Deputy; John Beyer, Second Deputy; John Treadway, Third Deputy; Eric Hedner, Secretary, and W. Edwin Dodge, Treasurer.

5-ALARM FIRE RAZES 5 STRUCTURES IN INDUSTRIAL SECTION OF PITTSBURGH

Flames Threaten Several Gasoline Service Stations in Area and a Nearby Large Baking Company Plant

By William E. Patterson

ONE of the largest and most spectacular fires that have occurred in the Bloomfield manufacturing section of Pittsburgh in years swept through five buildings and a junk yard located on Liberty Avenue, between Main and Fisk Streets, injured two firemen and snarled traffic over several miles before it was brought under control by fifteen fire companies called on five alarms.

Starting from some cause unknown in a two-story frame and iron clad building occupied as a junk warehouse, the flames quickly spread through the entire structure and set fire to four other buildings, a two-story frame dwelling in the rear, a two-story frame and iron clad building used as an automobile repair shop, a two-story frame and iron clad building used as a storage warehouse for structural iron and steel and a one-story brick building used as a dog pound. All were destroyed by the quick spreading flames. The animals in the dog pound were released before the flames reached the structure.

When the first alarm companies arrived in command of Battalion Chief John P. Maroney, the flames had already gained great headway and were threatening buildings on the opposite side of Liberty Avenue. Chief Maroney quickly sent in the second alarm at 12:26 p.m., which was answered by companies in charge of William M. Graves, Acting Chief of Department. The third alarm was sent at 12:28; fourth at 12:38, and fifth at 12:45 p.m.

Firemen had a hard battle saving a large brick bakery and other industrial buildings directly across from the burning buildings, over an eighty-foot thoroughfare. The intense heat cracked windows and blistered paint on the front of the buildings, while flying sparks and burning embers burned a hole in the roof of the baking plant. Several gasoline stations and other buildings in the district were threatened with destruction.

After an hour's hard work, during which time many of the fire fighters suffered blistered necks and ears from the intense heat, which drove them back across the street, the fire was checked and brought under control.

Twenty automobiles were removed to a place of safety from the automobile repair shop, while three other cars and a truck were destroyed by the flames.

Attendants at a service station adjoining the bakery poured water on their property with a private line to keep the heat and sparks from igniting lubricants.

Firemen fought the fire from all sides and from the roofs of adjoining buildings, using twelve powerful pumper streams and one hydrant stream. Pressure was furnished by four 1,000-gallon and eight 750-gallon triple combination pumpers, using 500 feet of 3-inch and 9,950 feet of 2½-inch hose, all cotton rubber lined.

After the fire had been brought under control another gust of flames arose from one of the junk yard buildings, where escaping natural gas had ignited from a ruptured pipe.

Firemen and gas company employees toiled for over an hour to locate the gas main, before they could shut off the gas.

View of Liberty Street While the 5-Alarm Fire Was Sweeping Through the Old Buildings

THREE VOLUNTEER FIREMEN KILLED IN LATE EVENING APPARATUS CRASH

Firemen Were Returning from Neighboring Town Where They Had Participated in a Parade for Local Celebration

By William E. Patterson

THREE Breckenridge, Pa., volunteer firemen were killed, and two were injured, when their apparatus overturned on the Perry Highway, north of Warrendale, about fifteen miles north of Pittsburgh, late Saturday evening, July 25.

The firemen were returning from the Beaver Valley Firemen's Association fair in Ellwood City, Pa., where they had paraded a short time before.

Two of the men were almost instantly killed, the third died a short time after being admitted to St. Francis Hospital, Pittsburgh, Pa., and the fourth was taken to the Valley Hospital in Tarentum, Pa., in a serious condition.

All of the firemen were members of the Pioneer Hose Company, of Breckenridge. The regular driver had remained in Ellwood City for a banquet held for the visiting firemen. Two firemen were returning to Breckenridge where they were to report for work on the night shift at the plant of the Allegheny Steel Company.

The apparatus on which the men were riding was the smaller and speedier of the apparatus operated by the Pioneer Hose Company.

The fire apparatus overturned when it swerved to avoid a collision with another car. As the driver of the apparatus attempted to get out of the way of the other car, the heavy fire apparatus struck a new stone shoulder being built along the highway and ran into an embankment with terrific force. It then toppled over into the roadway, a complete wreck.

The Breckenridge firemen had won a drum and bugle corps competition at the Ellwood City parade, which was a feature of the cornerstone-laying ceremony at the new Municipal Building.

After the accident occurred, the other piece of apparatus of the Pioneer Hose Company, which had remained at the celebration, was summoned by telephone and sped to the scene to carry the injured to the hospital.

All of the killed and injured men had made dozens of rescues in the Breckenridge area during the great St. Patrick's Day flood, and after the flood worked for days at a time, policing the flood-ravaged streets.

Signalmen Hold Big Convention

Many interesting papers were presented at the forty-first annual convention of the National Municipal Signal Association, held at the Hotel Pennsylvania, New York City, August 31-September 3.

The men were welcomed by Valentine Fendrick, Chief, Bureau of Fire Alarm Telegraph, New York City, Herbert A. Friede, President, National Municipal Signal Association, responded for the association. Among the papers presented were:

"Industrial and Interior Fire Alarm Systems," Vernon Durbin, Chief Engineer, Holtzer-Cabot Company.

"Modern Fire Alarm Methods as I See Them," Paul Horni, Horni Signal Manufacturing Company.

"New Developments in Fire Alarms," Frank Bridges, Engineer, Gamewell Company.

"Development in Protection Services," K. C. Edwards, American District Telegraph Company.

"Full Float Fire Alarm Batteries," H. B. Crantford, Philco Radio & Television Corporation.

"Full Float Fire Alarm Battery Operation from the Viewpoint of a Municipal Signal Man," G. Allen, Chief, Signal Bureau, Jacksonville, Fla.

The membership of the association has been more than doubled the past year, and a very large display of exhibits was arranged, the largest since before the depression. The following companies had exhibits:

Abell & Tait, American Automatic Sales Co., American District Telegraph Co., Appleton Electric Co., B. S. Barnard & Co., James G. Biddle Co., L. S. Brach Manufacturing Corp., Chase Shawmut Co., Copperweld Steel Co., Crouse-Hinds Co., Eagle Signal Corp., Edwards & Co., The Gamewell Co., General Cable Corp., General Electric Co., Gould Storage Battery Co., Graybar Electric Co., Grinnell Co., Hazard Insulated Wire Works, Holtzer-Cabot Electric Co., Homelite Corp., Johns-Manville Corp., National Electrical Products Corp., Philco Radio & Television Corp., Portable Light Co., Robinson & Halpenny, George C. Richards, Simplet Electric Co., Simplex Wire & Cable Co., Herman H. Sticht & Co., The Thomas & Betts Co., Tokheim Oil Tank & Pump Co., U. S. Rubber Products, and Wiremold Co.

President Proclaims Fire Prevention Week

In a recent proclamation, President Roosevelt called upon the people of the nation to observe the week of October 4 as Fire Prevention Week. He urged the cooperation of all the people to eliminate existing fire hazards.

He also called attention to the fact that by further improvement, fire hazards can be eliminated, property damage reduced, and the loss of life by fire eliminated.

West Virginia Holds School

A four-day course in fire fighting was conducted at the University of West Virginia, Morgantown, with 150 students registered. In addition to West Virginia firemen, there were representations from a number of municipalities of western Pennsylvania.

Using a miniature model of a village, William J. Williams, Chief Engineer, West Virginia Inspection Bureau, Charleston, gave a talk on "Factors Affecting Fire Insurance Ratings." He outlined four general classes of hazards: Construction, occupancy, exposure, and protection.

Charles E. Lawall, Director, University School of Mines, welcomed the visitors and invited them to inspect the school properties.

The speakers included Sam L. Smith, American-LaFrance & Foamite Industries, Inc., Pittsburgh, Pa., who spoke on the maintenance of fire apparatus and Capt. A. L. Headlough, Akron, Ohio, "Residential Fires."

Prof. L. V. Carpenter, of the New York University faculty, and for five years, while on the faculty of West Virginia University, Director of the school, was an interested spectator. He was succeeded by Mr. McElroy.

During the school there were a number of demonstrations, and practical training in the use of tools and appliances. A series of problems in evolutions was in charge of Chief Harry K. Rogers, Western Actuarial Bureau. The annual fire school dinner was held at the Morgantown Country Club.

Some New Jersey Delegates Snapped at the I. A. F. C. Conference at Toronto

Left to Right: Chief Benjamin Krack, Mountainside, N. J.; Chief J. David Hayes, Milburn, N. J.; Mrs. Fricke, Elizabeth, N. J.; Fire Commissioner Frank R. Fricke, Elizabeth, N. J.; Ex-Chief Jethro Gibbs, Montclair, N. J.; James T. Keegan, Chief Salvage Corps, Newark, N. J., and Mrs John W. Guire, Long Branch, N. J.

Plainfield Specifies HOMELITE

for

Brilliant Low Cost Floodlighting

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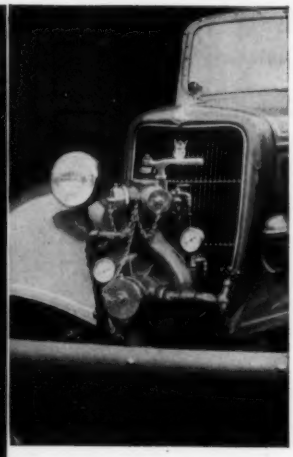

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Barton U-Type Fire Pumps are designed to protect the truck motor against the wear and tear of excessive speeds. They are regularly equipped with a BUILT-IN GEAR DRIVE which reduces motor speed to approximately ONE-HALF of pump speed.

Thus you can turn a Barton U-Type Pump wide open—get every possible gallon of water at 250 pounds pressure—YET THE MOTOR LOAFS ALONG UNDER NO STRAIN. Think what this means in the way of long motor life!

AND FRONT-MOUNTING SAVES PLENTY

Another thing to bear in mind is Front-Mounting. To install a Barton U-Type Fire Pump on the front of any standard truck requires NOT ONE CHASSIS CHANGE. In fact, the entire installation job can be done by any good mechanic in a few hours—COSTING BUT A FEW DOLLARS.

Before you buy any fire pump, be sure you know about this Barton U-Type Centrifugal. It has passed all Underwriters' tests—handles clean or DIRTY water—automatically primed.

Mail coupon below and get FREE copy of our new Catalog. It gives full details, and includes VALUABLE FIRE STREAM DATA that you can use time and again.

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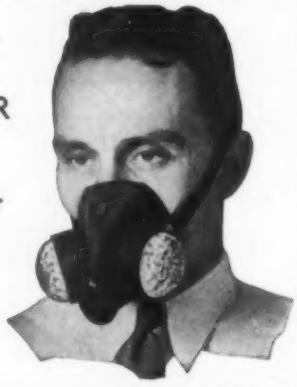

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ELMIRA, N. Y.

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By FRED SHEPPERD
In Collaboration with the EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

Highly Endorsed by Fire Chiefs Everywhere!

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition is Limited — Better Order Your Copy Today.*

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Write for Complete Information

CONVENTION DATES

Sept. 12—THIRD INTER-COMMUNITY TOURNAMENT AND PARADE. To be held at Malverne, L. I., N. Y. Entrants, Fire Companies of East Rockaway, Island Park, Lynbrook, Oceanside, Malverne, Valley Stream and Rockville Center. Address J. Lorenzen, Secretary, Norwood Hook, Ladder & Hose Company Malverne, L. I.

Sept. 14-19—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. 13th Annual Convention, Hotel Berkeley-Carteret, Asbury Park, N. J. Secretary-Treasurer, George J. Richardson, American Federation of Labor Bldg., Washington, D. C.

Sept. 15-16—IOWA STATE FIREMEN'S ASSOCIATION. 59th Annual Convention, Hotel Winchester, Eldora, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 16-17—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 16th Annual Convention, Seaford, Del. Secretary, Sam H. Carson, Dover, Del.

Sept. 16-17—INDIANA FIRE CHIEFS' ASSOCIATION. Annual Convention, Anderson, Ind. Secretary, Chief Archie McCabe, Muncie, Ind.

Sept. 17-18—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 59th Annual Convention, Convention Hall, Atlantic City, N. J. President, Chris Hasselhuhn, Carlstadt, N. J.

Sept. 18—NEW JERSEY STATE ASSOCIATION OF FIRE CHIEFS. Annual Meeting, Atlantic City Auditorium, at 8 p.m. Secretary, Fred A. Trowbridge, 29 South Street, Morristown, N. J.

Oct. 2—FIRE PREVENTION CONFERENCE. 1st Conference, Central Western Ohio, N. C. R. Schoolhouse, Dayton, Ohio. Address, Dayton Chamber of Commerce or Fire Department.

Oct. 6-8—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 57th Annual Convention, Williamsport, Pa. Secretary, Chief Charles E. Clark, Wayne, Pa.

Oct. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 49th Annual Convention, Pekin, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Oct. 14—NASSAU COUNTY FIREMEN'S ASSOCIATION. Quarterly Meeting, Fire Headquarters, Woodmere, L. I., N. Y. Secretary, James McInnes, Jr., P. O. Box 465, Syosset, L. I.

Oct. 24-26—INTERNATIONAL ASSOCIATION OF POLICE AND FIRE SURGEONS. Annual Convention, New Haven, Conn.

Oct. 28—FIRE CHIEFS EMERGENCY PLAN OF FAIRFIELD COUNTY. Next Meeting, Nichols, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn..

Connecticut Chiefs and Firemen Elect Officers

Capt. Eugene J. Mulligan of the Fire Prevention Bureau, New Haven Fire Department, was elected President of the Connecticut State Firemen's Association at the fifty-third annual convention of that association held at Havemyer School Auditorium, Greenwich, on August 21-22.

In a hotly waged contest, in which four candidates sought election for Vice-President, John Sullivan of East Hartford emerged a victor.

David W. Harford, South Norwalk, who has been Secretary of the Association for fifteen years, was unanimously re-elected. Deputy Chief Michael T. Souney, New Britain was also renamed as Treasurer. Rev. Michael J. Thompson, West Haven, was again named Chaplain.

Vice-Presidents from the eight counties in the state were elected as follows: New London, William T. Hamilton, New London; Middlesex, James U. Dibble, Saybrook; Fairfield, Thomas F. Magner, Bridgeport; Litchfield, C. J. Carrigan, Terryville; Tolland, George T. Milne, Rockville; Hartford, Charles Boynton, Newington; Windham, James Walker, Plainfield, and New Haven, Chris Winkle, Orange.

The convention opened with an address of welcome by Oscar D. Tuthill, First Selectman of Greenwich. Judge James F. Walsh, Greenwich, who joined the Greenwich department as a volunteer in 1882, also addressed the gathering of over 400 visiting firemen.

The principal address of the first day's session was delivered by Lieut. Governor T. Frank Hayes, Waterbury. He said in part:

"I am interested in the firemen through inheritance. My father was foreman of the old Phoenix Hose Company of Waterbury years ago and turned out to every alarm he could make. The interest and respect that he had was passed on to me and I still cherish it.

"I am deeply interested in your association because it is dedicated to the protection and promotion of the best interests of the firemen of Connecticut and your duty in taking care of the orphan children of firemen killed in the line of duty is a credit to your association."

Several matters of interest to the firemen in Connecticut were taken up during the meeting. The delegates went on record as opposing the present ruling of the State Liquor Control Commission which calls for the closing of rear doors of all taverns. The firemen, it was pointed out, claim that the closing of rear doors creates a dangerous hazard in the event of fire.

Derby was selected for the 1937 convention. A parade of old and modern fire apparatus, in which over 4,000 firemen were in line, was held on Saturday afternoon. Cups were awarded to the winners in the various competitive events by judges selected from among the visitors.

The Connecticut Fire Chiefs' Club, which meets annually in the same city as the firemen's association, elected the following officers for the coming year: President, Henry R. Taft, Norwich; First Vice-president, Michael W. Lawton, Middletown; Second Vice-president, George Milne, Rockville; Secretary-Treasurer, D. B. Mercer, Branford. Resolutions were passed on the death of two members during the year, Chief V. A. Woodward, Danielson, and Chief John J. Luby, Wallingford.

THOMAS F. MAGNER.

Roundup Host to Montana Firemen

Roundup, Mont., was host to the forty-fifth annual convention of the Montana State Firemen's Association, August 6 to 8.

T. W. Carolan, Forsyth, was re-elected President; W. T. Cavett, Shelby, Vice-President; Robert C. Thorburn, Billings, re-elected Secretary-Treasurer, and Fred Noble, Butte, re-elected Director for a three-year term.

During the convention there were various demonstrations.

N. C. Chiefs Formulate By-Laws

Chief W. H. Palmer, Charlotte, N. C., President of the newly organized North Carolina Fire Chiefs' Association, announced the five district officers who will assist him in preparing a constitution and by-laws for the group.

The fire chiefs association is an adjunct to the North Carolina State Firemen's Association that met in Raleigh recently.

The district officers who will meet with Chief Palmer and the Executive Committee of the firemen's association next month are: Chief D. E. Shuford, Hickory, who will represent the Piedmont District; Chief Frank Bennett, Durham, the Central District; Assistant Chief J. S. Worley, Hamlet, the Sand Hill District; Assistant Chief J. R. Thomas, Rocky Mount, the Eastern District, and Assistant Chief Hilderbrand, Canton, the Western District.

At the meeting that will be held in Durham early next month, Chief Palmer said other officers will be appointed in each district of the state and by virtue of their positions will be on the Board of Directors of the State association.

D. G. SPENCER.

Virginia Firemen Observe 50th Anniversary

The fiftieth anniversary of the Virginia State Firemen's Association was observed at the convention held at Norfolk, Va., August 11 to 14. The Committee of Arrangements was headed by Chief Richard S. Baughan, Norfolk, and President of the Virginia State Fire Chiefs' Association.

The program consisted of a first aid contest, reel and ladder races, a band contest, a fish fry at the Southern Brewery, and dancing.

All officers of the firemen's association were re-elected. They are Frank H. Wheeler, Clifton Forge, President; C. H. Page, Charlottesville, Vice-President; O. W. Dabney, Staunton, Secretary; A. R. Thompson, Hampton, Treasurer.

All officers of the Virginia State Fire Chiefs' Association, which held a meeting at the same time, were also re-elected. They are R. S. Baughan, Norfolk, President; E. H. Dabney, Staunton, Vice-President, and E. H. Rouse, Orange, Secretary-Treasurer.

Lieut. Gov. James H. Price, in addressing the firemen, said:

"Good citizens are the finest assets a state can have, and our volunteer firemen are among the best. If volunteer firemen can be judged by the service they have rendered, they must be considered to have been of inestimable value to the state."

Demonstrating the Use of Fog Nozzles

Chief Howard L. Humes, Ballston Spa, N. Y., arranged a demonstration to show the operation of the new fog and vapor nozzles purchased by the department for extinguishing oil fires. A pit, 12 x 12 feet, was filled with 130 gallons of crank case oil and gasoline. After the fire was allowed to burn for three minutes, it was extinguished by using the new nozzles attached to a 2½-inch hose line. The test was witnessed by a number of fire officials, including Chief John S. Hickey, Saratoga Springs; Chief William Wayand, Scotia; C. N. Traver, Troy, Chief District Fire Ranger, and others

FALSE ALARMS

HEAVENLY FIRE

Here is a story reported in the *News Letter* of the Box 52 Association as happening some time ago.

When the desk man answered the phone, and heard the message, he shouted, "Fire," and the fire company was soon on its way to a large wooden factory building tenanted by a knitting company. Dashing through Mattapan Square, the firemen could see a red glow directly over the roof, and they dooned their rubber boots and coats.

"Ain't it strange, this seeing things at night?"

There was no fire. It was the moon, a big red moon hovering over the building. An excited maid, living on River Street, and thought to be an employee of the mill, looked out her window, thought the factory was on fire, and telephoned Fire Headquarters.

There was a slow ride through the night, and the man on patrol made an entry on the house blotter:

"Fire in the moon."

The Olympic cocktail: One drink and you're out.

SURE OF HIMSELF

There they were. Six persons were stretched out on the sidewalk, while the firemen battled to control the flames inside the building. Over the victims, two hospital internes were working. Regarding one of those injured, there seemed to be some doubt. The two debated over the merits of the case, with all the fervor of a newcomer in the medical field.

"I am sure that you are wrong in your diagnosis."

The other replied sweetly, "But I am certain that I am right. In fact, doctor, even the post mortem will show that I am right."

One thing about being on the relief—the job's steady.

NO CHANCE

The instructor at the fire school, was one of the old pedagogues—strict even to a fault. He noticed one fellow dozing in the rear of the room. At this he became greatly incensed.

He shouted, "You can't sleep in this class."

Although not brave enough to address his reply to the instructor, he muttered to his neighbor:

"I could if he didn't talk so loud."

She was a good little girl as far as good little girls go, and as far as good little girls go, she went.

JUST DEVELOPED

The reporter who covered the police and fire news for the evening paper, dropped in at the station just about lunch time. He was invited to sit down with the boys. The main dish was hash, and as common with cub reporters, he was a good judge of that item.

He ate his food with a great deal of relish, and shouted towards the kitchen:

"Gee, that's great. I wish you'd give me the recipe."

Out of the kitchen, came the reply:

"There is no recipe. The stuff simply accumulates."

A bit of advice from a sailor: "If they look young, they are old; if they look old, they are young; if they look back, full steam ahead."

IT PAID

There was a good crowd at the meeting of the state association—and even a good showing of the flashy dressed salesmen.

At the end of the meeting, a few of the boys went to get their hats.

Imagine the surprise of one when he saw that his friend had tipped the hat check girl one dollar.

He asked, "Why did you give that girl a dollar tip?"

The other replied, "Look at the hat she gave me."

The feminine of bachelor is lady-in-waiting.

WISH GRANTED

The community, which was a sleepy village in the winter, was a bustling place in the summer. The fire hall, the largest of the meeting places, was often used for dances by the various community associations, and by the summer residents. There was no trouble getting all the volunteers out in the summer. They came down to the hall to look over the new summer arrivals.

One of the boys was dancing with a rather pretty girl. His hopes soared. He wanted to take her out riding after the dance was over, but he thought he would lead up to the question gently.

He asked, "May I have the last dance with you."

Quick as a flash came the answer, "You've had it."

HEALTH HAZARD

The boys were studying first aid. The doctor who had consented to teach the boys the rudiments of the art, left a large number of pamphlets issued by an insurance company, so the boys would have a chance to do some studying during their free time.

One of the pamphlets contained statistics on the number who are killed each year by accidents, injuries, and the various causes of the fatalities.

"Gee, Tom," said Joe, "it sez here that every time I breathe a man dies."

"Then why don't you use a mouth wash?"

Girls who smoke and use lipstick are out as far as some men are concerned—in fact, they are out almost every night.

USELESS WORK

The instructor was showing a group, who hoped to take a promotional examination, how to solve a mathematical problem. The largest part of the blackboard soon became filled with equations, as step by step, he worked towards the solution.

Finally, he reached the last stage, and joyfully said to his class:

"And so we find that x equals zero."

A fellow took a long breath and said, "All that work for nothing."

"Virgin" pines—they've never been axed.

Courtesy, New Yorker

"Hey, Jack! Is this Rosedale Avenue?"

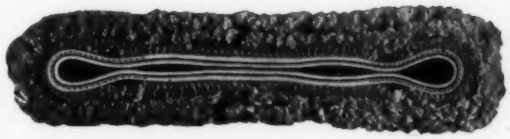
FLAT CURED— WAX and GUM TREATED—

Any type you want!

Quaker City makes a complete line of fire hose in a wide price range—but every foot of it is made to give you the best service you can get in its price class. For a complete list of brands and prices write us anytime—

QUAKER CITY RUBBER CO.
PHILADELPHIA, PA.

Bi-Lateral Fire Hose



The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.

Lined with three rubber tubes.

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EXCLUSIVE TERRITORIES
ARE AVAILABLE ON
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A complete line, including
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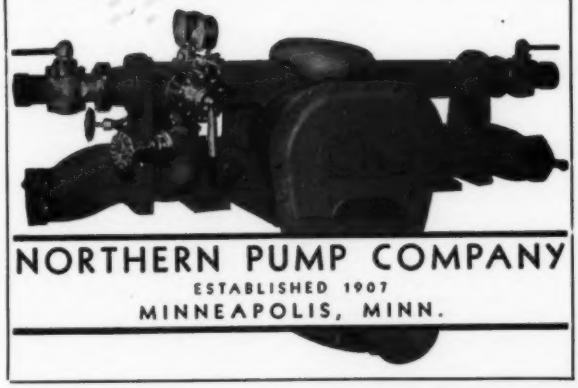

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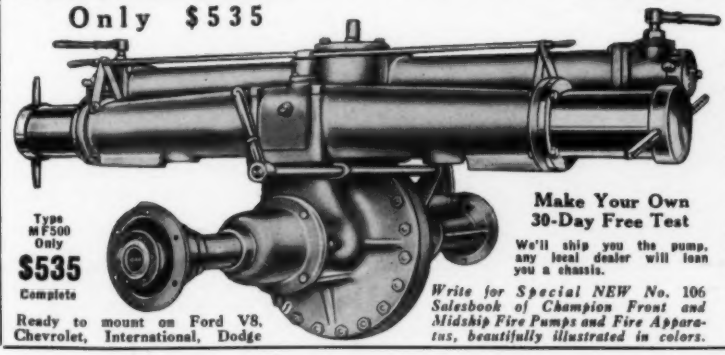
Sensational NEW Midship Champion

Only $535



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Make Your Own 30-Day Free Test

We'll ship you the pump, any local dealer will loan you a chassis.

Write for Special NEW No. 106 Salesbook of Champion Front and Midship Fire Pumps and Fire Apparatus, beautifully illustrated in colors.

A totally new achievement in centrifugal Fire Pump design by Darley engineers.

Weighs only 375 lbs.—specially engineered and built for mounting on 1½-2 ton standard truck chassis without overloading.

Direct drive off chassis propeller shaft. No gears. Simple and dependable. Nothing to go wrong.

Unconditionally Guaranteed for 10 Years.

Meets all requirements of the Underwriters and all State Actuarial Bureaus for 500 GPM Fire Pumps. But actually delivers 600 GPM at suction and 800 GPM from fair hydrants. Automatic Vacuum Primer.

Easily installed without mutilating chassis. Pump fits into the space now occupied by short shaft which connects propeller shaft with transmission. Installation completed in an hour's time.

You can mount the new Champion Midship Fire Pump temporarily on a chassis and make your own tests. If the Champion does not perform fully to your expectations it can easily be removed from chassis and we want you to return it and we will send your money back.

Complete, ready to mount, with Gauges, Booster Valves, etc.

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Salesmen Wanted

To sell FIREALLS, a Streamlined, Waterproof, Air-Conditioned, Day or Night, Fireman Safety turn out coveralls. Has no equal in Safety, Speed, Economy, Comfort and Durability. Now used in 37 States. Write now. MORNING PRIDE MFG. CO., Dayton, Ohio.

Salesmen Wanted

Wanted—Experienced Fire Hose Salesman for Eastern North Carolina and Virginia. Attractive proposition to right party. Give previous experience, age and other information of interest. All correspondence will be treated in confidence. Address: Box No. 795, c/o FIRE ENGINEERING, 24 W. 40th St., New York.

Ex-Asst. Chief Welsh, Columbus, Dead

John A. Welsh, seventy-two years old, and until recently Assistant Fire Chief, Columbus, Ohio, in charge of the Fire Prevention Bureau, died at a local hospital.

He entered the department when he was nineteen years old. He resigned on July 8, 1936, to enter the hospital for an operation and a rest. When he resigned the Safety Director issued an order making any engine house in the city, Chief Welsh's home. His death prevented the fulfillment of the order.

In 1890 he was made Captain; Battalion Chief, 1898, and head of the Fire Prevention Bureau in 1914. He is survived by three brothers and a sister.

LARRY F. DONOVAN.

Ohio to Hold Fire Prevention Conference

The first annual fire prevention conference for central western Ohio, will be held at the N.C.R. Schoolhouse in Dayton, Friday, October 2. The conference is being sponsored by the Fire Prevention Committee of the Dayton Chamber of Commerce and the Dayton Fire Department.

Talks will be given by Robert B. Criswell, Ohio, Inspection Bureau, Columbus; Chief Inspector Earl Waltescheid, Toledo Fire Department, and Richard Vernor of the Western Actuarial Bureau, Chicago.

The meeting will start at 3:30 p.m. Following dinner in the National Cash Register cafeteria at 6 p.m., the conference will again convene at 7 p.m., and there will be a showing of two reels of motion pictures on fire prevention and fire fighting.

Indiana Chiefs to Meet

The tenth annual convention of the Indiana Fire Chiefs' Association will be held at Anderson, September 16 and 17. On the first day there will be a banquet and dance at the Country Club. On the second day there will be a card party for the ladies and a stag and smoker for the men.

Chief Bender Loses Daughter

While attending the I.A.F.C. convention at Toronto, Chief and Mrs. Frank Bender, Saginaw, Mich., were called home by the serious illness of their daughter Frances Ellen. Miss Bender, who was sick but a week, died following an operation. She was twenty-three years old. Her parents, three sisters and a brother survive.

North Carolina Firemen Meet

Chief W. E. Holland, Raleigh, N. C., was elected President of the North Carolina State Firemen's Association at its forty-ninth annual convention which was held at Raleigh August 11 to 13. Greensboro was selected as the meeting place of the 1937 convention. Chief Holland served last year as Vice-President.

Chief and Mayor Jerome Flora, of Elizabeth City, was named Vice-President; John L. Miller, Concord, Secretary; A. B. Horney, High Point, Treasurer, and R. A. Joyner, Farmville, Statistican.

The more than 700 delegates present voted to accept a $150 fund from George McNeill, of Fayetteville, son of the late J. D. McNeill, founder of the association, to provide a trophy which will be awarded for fire-fighting excellence.

The Executive Committee was instructed to appoint a legislative group to present to the General Assembly bills designed for elimination of fire hazards.

At the opening session the firemen heard a report that their efficiency and additional safety precautions had caused North Carolina's per capita fire loss to drop to a new low record of $1.89 during 1935.

The previous low was $2.08 per capita, established in 1934, Charles C. Harris, of Rocky Mount, Statistician for the association, said in an address.

Among the speakers were Walter H. Blair, for 12 years director of public safety at Wilmington; P. S. B. Harper of Kinston, 78-year-old veteran fireman; Will H. Nicks, Graham; Roscoe Foster, Portsmouth, Va., Past President of the Southeastern Section of the International Association of Fire Chiefs; State Senator Charles U. Harris, of Wake County, and Capt. Charles D. Farmer, of the State Highway patrol.

Dr. Long, who presided, announced that Chief W. H. Palmer, Charlotte, had been chosen to head the state organization of Fire Chiefs and would name a five-man Board of Directors. They are Chief D. E. Shuford, Hickory, Frank Bennette, Durham and Assistant Chiefs Hildebrand, J. C. Worley, Hamlet, and J. R. Thomas, Rocky Mount.

A series of fire-fighting contests, in which eleven fire companies took part, ended the convention. D. G. SPENCER.

C. S. Chandler, Elizabeth, Dead

Charles S. Chandler, member of the Board of Fire Commissioners, Elizabeth, N. J., since 1909, and its President for the past five years, died at a local hospital on August 20 as a result of diabetes, at the age of sixty-three.

The Late C. S. Chandler

He was a regular attendant at the conventions of the I.A.F.C. He held life memberships in the State Firemen's Relief Association, and the State Exempt Firemen's Association. Before the present Fire Department was formed, Mr. Chandler was the foreman of the Rolla Engine Company 2, a volunteer unit. He was the only treasurer of the Veteran Volunteer Firemen's Association, and Financial Secretary of the Elizabeth Exempt Firemen's Association.

In 1932, he had retired as Superintendent of the Standard Oil Company's distribution yard in Newark.

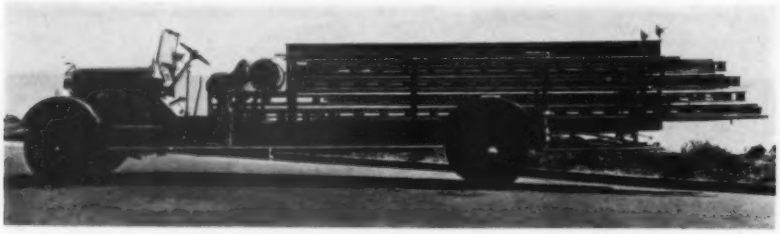
Mr. Chandler was high in Masonic circles. He is survived by two sisters, five nieces and a nephew. He never married.

Indiana Firemen Meet

Indiana firemen, gathered at Terre Haute, for their twentieth annual convention held there August 11 to 13, voted overwhelmingly for legislative measures designed to give civil service for firemen. President Frank H. Miller, presided.

G. Schulte, Hammond, was elected President; August Lupkin, New Haven, First Vice-President; Harry Fulmer, Indianapolis, Treasurer.

Don F. Stiver, Director of Safety, Indiana, expressed appreciation to the firemen for cooperation with the State Department regarding safety. He said that while twenty-six persons lost their lives by fire in the state, the traffic deaths numbered 1,196.



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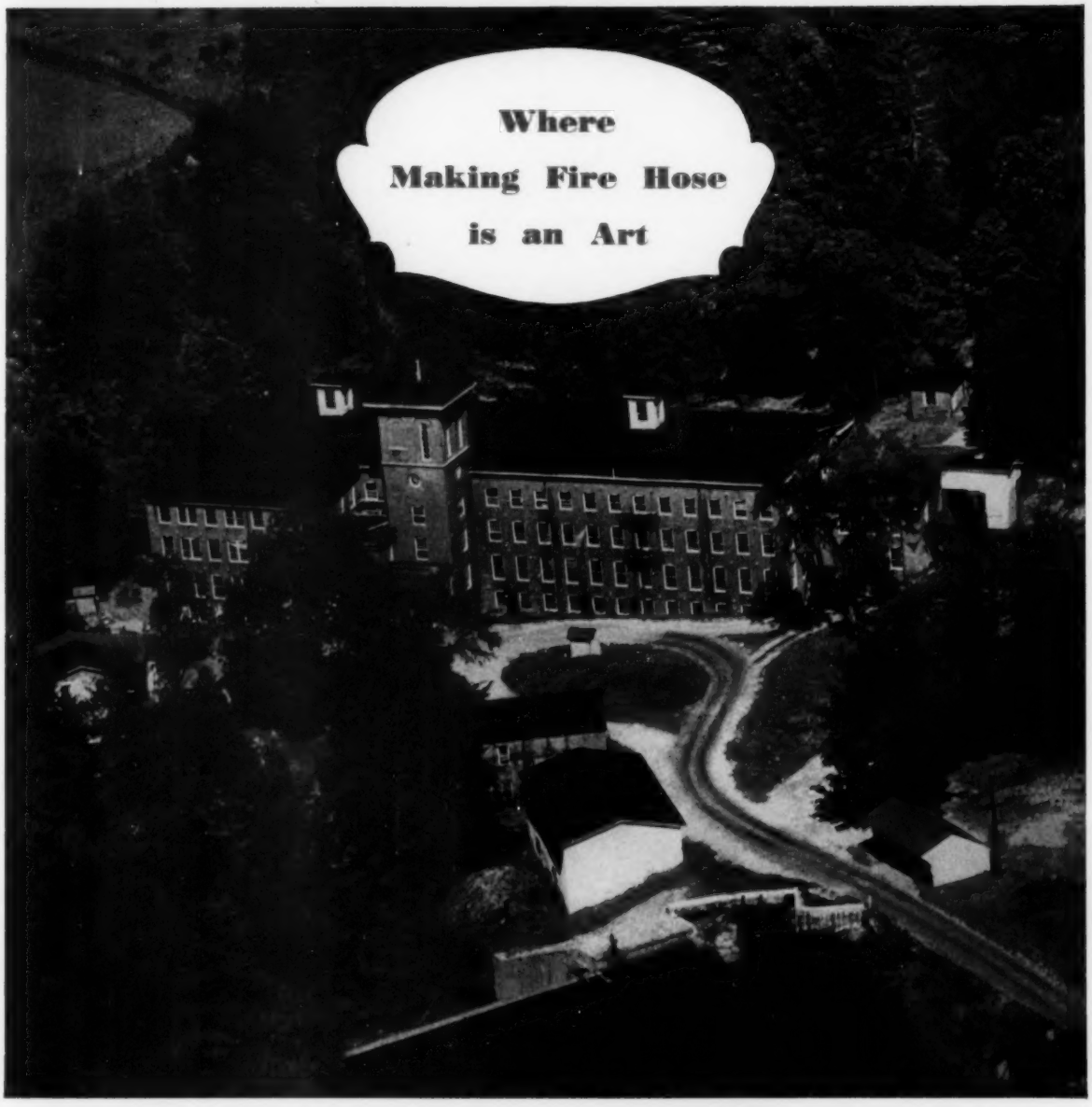

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